PB-227 213

WATER QUALITY STANDARDS SUMMARY FOR INTERSTATE WATERS OF THE COMMONWEALTH OF VIRGINIA

Environmental Protection Agency
Philadelphia, Pennsylvania

1971

DISTRIBUTED BY:

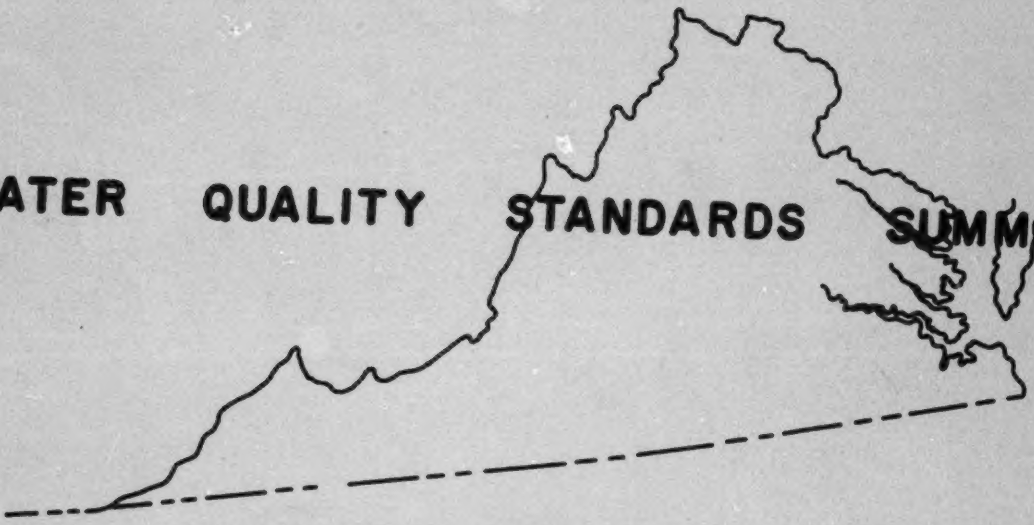
NTIS
National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

032091

PB 227 213

COMMONWEALTH OF VIRGINIA

WATER QUALITY STANDARDS SUMMARY



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

VIRGINIA STATE
WATER CONTROL BOARD

172
R

Water Quality Standards Summary
for
Interstate Waters
# of the
Commonwealth of Virginia

Environmental Protection Agency
Region III
Curtis Building, 6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Virginia State Water Control Board
Post Office Box 11143
Richmond, Virginia 23230

TABLE OF CONTENTS

Introduction i

Water Quality Standards

Section 1. Rules with State-Wide Application 1
Section 2. Rules with Specific Application Based On Climate, Geographic Area, or Uses 4
Section 3. Variance in Standards 6
Section 4. Application of Standards 6
Section 5. Key to Special Standards 7
Section 6. Designated Water Uses and Water Quality Criteria . . 16

River Basins (Exhibits - See Section 7)

Section 6A. Big Sandy 19
Section 6B. Clinch River 25
Section 6C. Holston River 33
Section 6D. New River 41
Section 6E. Roanoke River 51
Section 6F. Chowan River 63
Section 6G. Shenandoah River 69
Section 6H. Rappahannock River 81
Section 6I. York River 89
Section 6J. James River (Lower) 95
Section 6K. James River (Middle) 101
Section 6L. James River (Upper) 109
Section 6M. Chesapeake Bay and Atlantic Ocean 119
Section 6N. Yadkin River 127
Section 6O. Albemarle Sound 131
Section 6P. Potomac River 135

Implementation Plan 145

Appendix 147

Glossary of Terms 147

Figures iii

Figure I. Significant Interstate Waters of the Commonwealth of Virginia iii

Index 1515

Stream Index 151

Summary of Water Quality Standards
for
Interstate Waters
# of the
Commonwealth of Virginia

Introduction

In the Water Quality Act of 1965 Congress authorized the establishment of water quality standards for interstate (including coastal) waters. The purpose of these standards is to protect and enhance the quality and productivity of the Nation's interstate waters to serve a variety of beneficial uses, such as public water supply, recreation, protection of aquatic life, and industrial and agricultural uses. This publication summarizes the standards for the general information of the public and Federal, State, and local officials as to the uses and associated requirements for interstate waterways.

The Act, which amended the Federal Water Pollution Control Act, provided for the states to have the first opportunity to establish standards for their interstate waters, which were then subject to review and approval by the Secretary of the Interior. On December 2, 1970, the responsibility for administering the Water Quality Act of 1965, was transferred to the Administrator, Environmental Protection Agency.

All of the states, the District of Columbia, and the territories of Guam, Puerto Rico, and the Virgin Islands participated in this landmark effort to set standards. In the course of establishing the standards, public hearings were held by the states and other jurisdictions noted above to give the public an opportunity to participate in setting water quality objectives and standards.

The standards for interstate waters, which the Commonwealth of Virginia adopted March 28, 1967, were partially approved by the Secretary of the Interior on January 17, 1969.

The Commonwealth of Virginia adopted a policy to protect its high quality interstate waters, and amended their standards effective July 20, 1970. On February 22, 1971, the Administrator, Environmental Protection Agency, approved the amended standards excepting Section 1.01, accepting the 1967 General Criteria in its stead. (See Page 1, 1.01 (b), Approved Federal Standards for Virginia Interstate Waters).

Reproduced from best available copy.

The standards as approved are those applicable under the Act to the Interstate Waters of Virginia and are consistent with the protection of the public health and welfare, the enhancement of water quality and the purposes of the Federal Water Pollution Control Act as provided by Section 10(c)(3) of that Act. The standards consist of the Commonwealth of Virginia water quality standards effective July 20, 1971; the "description of waste sources" dated April 8, 1970 supplemented as described by the Industrial Waste Treatment Needs List and the Municipal Waste Treatment Needs List enclosed with the FY 71 State program plan; and the policies and statements set forth in the State Water Control Board transmittal letter to the Federal Water Quality Administration dated May 12, 1970 except that where on Page 3, Paragraph B-9 that letter refers to Section 62.1-44.15(14), is substituted.

The standards are now being implemented. However, there will be continuing research on water quality requirements for various beneficial uses and improved collection and evaluation of water quality data. As more information becomes available and experience with implementing standards is gained, the standards will be refined and improved to reflect this new knowledge.

Should more detailed information be required on any aspect of the standards, it may be obtained from the Commonwealth of Virginia State Water Control Board, P. O. Box 11143, Richmond, Virginia 23232; or the Environmental Protection Agency, Region III, 6th and Walnut Streets, Philadelphia, Pennsylvania, 19106.

Reproduced from best available copy.

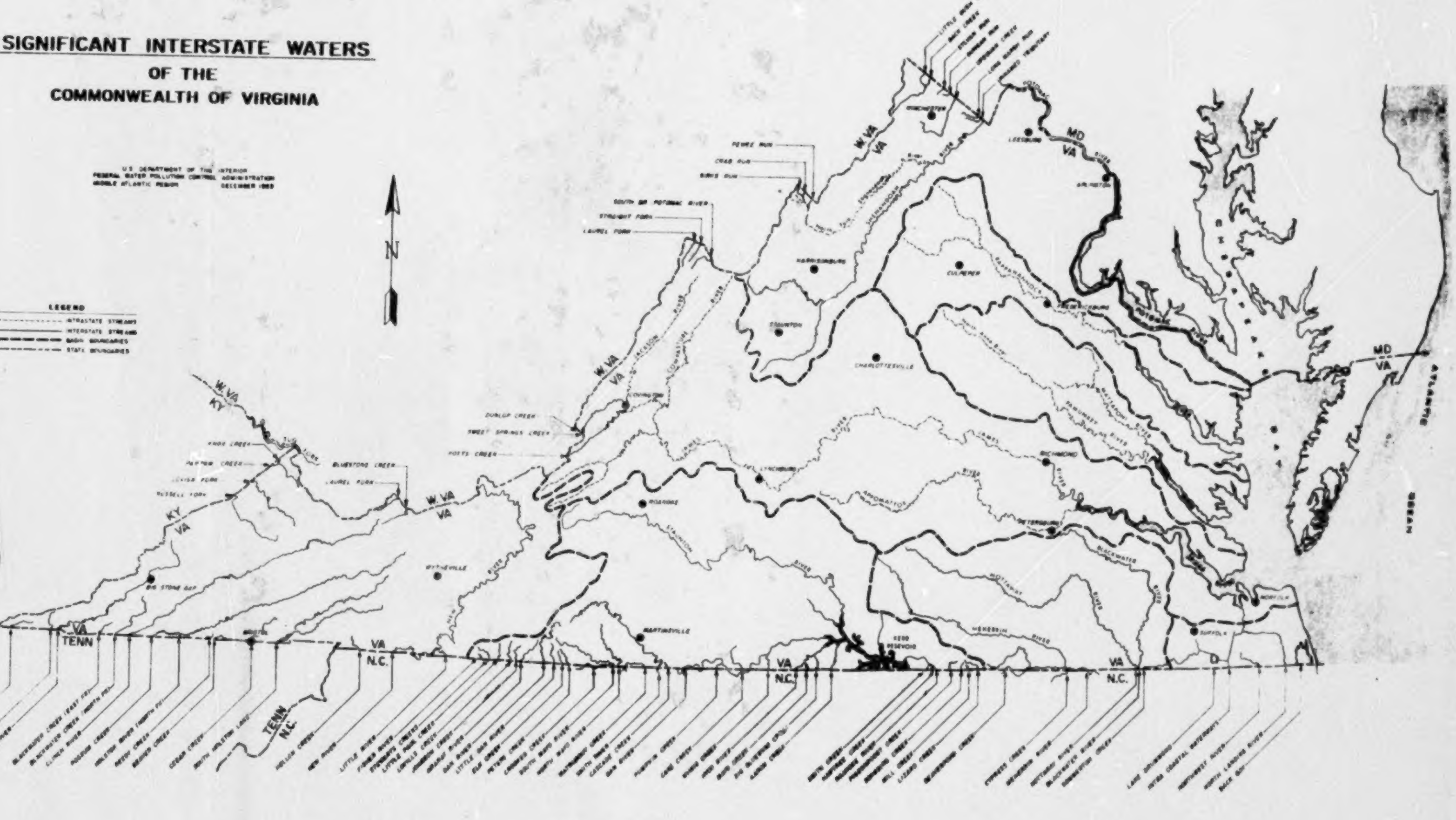


Figure 1.

Reproduced from best available copy.

Water Quality Standards Summary
for
Interstate Waters
of the
Commonwealth of Virginia

The report includes water quality standards and

Water Quality Standards Summary

It is the public policy of the Commonwealth of Virginia that waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at high quality; provided that the Commonwealth of Virginia has the authority to approve any project or development which would constitute a new or an increased discharge of effluent to high quality water, when it has been affirmatively demonstrated that a change is justifiable to provide necessary economic or social development, and provided further, that the necessary degree of waste treatment to maintain high water quality will be required where physically and economically feasible. Present and anticipated use of such waters will not be precluded under the conditions of the aforesaid. In implementing this policy, the Administrator, Environmental Protection Agency, will be kept informed and will be provided with such information that he will need to discharge his responsibilities under the Federal Water Pollution Control Act.

The report includes stream standards and water quality criteria, and reviews.

Section 1. Rules with State-Wide Application

a. Stream standards will apply whenever flows are equal to, or greater than, the minimum mean 7-consecutive day drought flow with a 10-year return frequency.

b. In lakes and impoundments the temperature of the epilimnion, in those areas where important organisms are most likely to be adversely affected, shall not be raised more than 3°F, above that which existed before the addition of heat of artificial origin. The increase is to be based on the monthly average of the maximum daily temperature. Unless a special study shows that a discharge of heated effluent into the hypolimnion (or pumping water from the hypolimnion for discharging back into the same water body) will not produce adverse effects, such practice shall not be approved. Maximum temperatures consistent with the standards established for waters immediately above and below the lake or impoundment will be established for these waters.

c. Any tributary stream which is not named in a specific section description, or otherwise, shall carry the same classification and standards of quality assigned to the stream or section to which it is tributary.

d. General Criteria

1. The following paragraph, adopted by the Commonwealth of Virginia as part of the April 8-June 9, 1970 amendments submitted to the Administrator, Environmental

Protection Agency, was excepted from approval. As such, the statement is excluded as a Federal criterion but is enforceable as a State criterion applicable to all Virginia waters.

"All waters within this State shall at all times be free from all substances attributable to sewage, industrial wastes, or other wastes in concentrations or combinations which contravene established standards or interfere directly or indirectly with beneficial uses of such waters; except that limited zones will be permitted for the mixture of treated sewage, treated industrial wastes, and other waste effluents with receiving waters. The boundaries of mixing zones will be determined on a case by case basis. However, these zones shall generally occupy as small an area and length as possible, and shall not prevent free passage of fish or cause fish mortality."

2. The following criteria were approved by the Secretary of the Interior on January 17, 1969. Subsequently, an amendment was proposed as indicated in d(1) above, and with the exception cited, the following criteria remained in effect and enforceable as Federal criteria applicable to all interstate waters in Virginia.

"Free from substances attributable to sewage, industrial waste, or other waste that will settle to form sludge deposits that are slightly, putrescent or odorous, to such degree as to create a nuisance or to interfere directly or indirectly with specified uses of such waters;

Free from floating debris, oil, grease, scum, or other floating materials attributable to sewage, industrial waste, or other wastes that are unsightly to such degree as to create a nuisance or to interfere directly or indirectly with specified uses of such waters;

Free from materials attributable to sewage, industrial waste, or other waste which produce odor, or appreciably change the existing color or other conditions to such degree as to create a nuisance or interfere directly or indirectly with specified uses of such waters;

Free from high-temperature, toxic or other deleterious substances attributable to sewage, industrial waste, or other waste in concentrations or combinations which interfere directly or indirectly with specified uses of such waters; and

There shall be no sudden temperature changes that may affect aquatic life. There shall be no thermal barriers to the passage of fish. Essential spawning areas shall not be affected."

e. Public Water Supply

In addition to other standards established for the protection of public or municipal water supplies, the following standards will apply at the raw water intake point:

Constituent	Concentration
Physical	
Color (color units)	75
Inorganic Chemicals	mg/l
Alkalinity	30-500
Arsenic	0.05
Barium	1.0
Boron	1.0
Cadmium	0.01
Chloride	250
Chromium, hexavalent	0.05
Copper	1.0
Fluoride	1.7
Iron (filterable)	0.3
Lead	0.05
Manganese (filterable)	0.05
Nitrates plus nitrites	10 (as N)
Selenium	0.01
Silver	0.05
Sulfate	250
Total dissolved solids (filterable residue)	500
Uranyl ion	5
Organic Chemicals	mg/l
Carbon Chloroform extract (CCE)	0.15
Cyanide	0.20
Methylene blue active substances	0.5
Pesticides:	
Aldrin	0.017
Chlordane	0.003
DDT	0.042

Dieldrin	0.017
Endrin	0.001
Heptachlor	0.018
Heptachlor epoxide	0.018
Lindane	0.056
Methoxychlor	0.035
Organic phosphates plus Carbamates	0.1
Toxaphene	0.005
Herbicides:	
2,4-D plus 2,4,5-T, plus 2,4,5-TP	0.1
Phenols	0.001
Radioactivity:	pc/l
Gross beta	1,000
Radium-226	3
Strontium-90	10

Section 2. Rules with Specific Application Based on Climate, Geographical Area, or Uses.

a. Primary Classification of Waters Within the State

MAJOR CLASS	GEOGRAPHICAL AREA DESCRIPTION WATERS	D.O. mg/l Min.	D.O. mg/l Daily Av.	pH	Temp. °F Rise Above Natural	Max.
I	Open Ocean (Seaside of the Land Mass	5.0	--	6.0-8.5	4.0(Sept-May) 1.5(June-Aug)	-- --
II	Estuarine (Tidal Water - Coastal Zone to Fall Line	4.0	5.0	6.0-8.5	4.0(Sept-May) 1.5(June-Aug)	-- --
III	Free Flowing Streams (Coastal Zone & Piedmont Zone to the Crest of the Mountains	4.0	5.0	6.0-8.5	5	90
IV	Mountainous Zone	4.0	5.0	6.0-8.5	5	87
V	Put & Take Trout Waters	5.0	6.0	6.0-8.5	--	70
VI	Natural Trout Waters	6.0	7.0	6.0-8.5	--	70

b. Subclasses to Complement Major Water Class Designitions

1. Subclass A.

Uses - Waters generally satisfactory for use as public or municipal water supply, secondary contact recreation, propagation of fish and aquatic life, and other beneficial uses.

Criteria - Coliform Organisms - Fecal coliforms (multiple-tube fermentation of MF count) not to exceed a log mean of 1000/100 ml. Not to equal or exceed 2000/100 ml. in more than 10% of samples.

Monthly average value not more than 5000/100 ml. (MPN or MF count). Not more than 5000 MPN/100 ml. in more than 20% of samples in any month. Not more than 20,000/100 ml. in more than 5% of such samples.*

2. Subclass B.

Uses - Waters generally satisfactory for use as public or municipal water supply, primary contact recreation (prolonged intimate contact; considerable risk of ingestion), propagation of fish and other aquatic life, and other beneficial uses.

Criteria - Coliform Organisms - Fecal coliforms (multiple-tube fermentation or MF count) within a 30 day period not to exceed a log mean of 200/100 ml. Not more than 10% of samples within a 30-day period will exceed 400/100 ml.

Monthly average not more than 2400/100 ml. (MPN or MF count). Not more than 2400/100 ml. in more than 20% of samples in any month. Not applicable during, nor immediately following periods of rainfall.*

* With the exception of the coliform standard for shellfish waters, the enforceable standards will be those pertaining to fecal coliform organisms. The MPN concentrations are retained as administrative guides for use by water treatment plant operators.

c. Shellfish Waters

1. Discharges of treated wastes, while not contravening established standards for shellfish waters may prevent the direct marketing of shellfish beds as a result of judgment factors employed by the State Department of Health. When the possibility of such condemnation arises as the result of proposals to discharge treated wastes, the Board will convene a public hearing to determine the socio-economic effect of the proposal before reaching a decision.

2. Samples for determining compliance with standards established for estuarine or open ocean waters will be collected at slack before flood tide or slack before ebb tide.

3. In open ocean or estuarine waters in specific areas where leased private or public shellfish beds are present, the following standard for coliform organisms will supplement the standard for Subclass A or B waters:

> Not more than 70/100 ml of coliform organisms. Not more than 10% of the samples ordinarily greater than 230/100 ml (5-tube decimal dilution), or 330/100 ml (3-tube decimal dilution). Not to be so contaminated by radionuclides, pesticides, herbicides, or fecal material so that consumption of the shellfish might be hazardous.

Section 3. Variance in Standards.

a. The above standards notwithstanding, as a result of natural conditions, water quality may from time to time vary from established limits.

b. In accordance with the authority granted under Section 62.1-44.15(3a) of the State Water Control Law, Chapter 3.1, Title 62.1 Code of Virginia 1950 as amended by the 1970 General Assembly, the Board reserves the right at any time to modify, amend, or cancel any of the rules, policies, or standards set forth above.

Section 4. Application of Standards.

a. Based on climate, geographical location, or type (tidal, freeflowing, etc.), all waters will be assigned a major class I - VI and a Subclass A or B, to indicate the appropriate coliform standard.

Waters used for primary contact recreation will be assigned Subclass B. All other waters will be assigned Subclass A and will be suitable for secondary contact recreation and for use as a public water supply.

b. All water supplies will be assigned the standard for protection of water supplies set forth in Section 1e. In shellfishing areas, those waters over and adjacent to shellfish beds will be assigned a major class, the appropriate subclass, and the special shellfish standard set forth in Section 2c(3) on page 6.

c. All waters within this State will be satisfactory for fishing and secondary contact recreation.

Section 5. Special Standards.

a. In those sections of Class IA, IB, IIA, and IIB waters within this State where leased private, or public shellfish beds are present, the following bacterial standards shall be established in addition to other bacterial standards adopted for the protection of primary or secondary recreation:

> Coliform organisms - The median MPN shall not exceed 70/100 ml, and not more than 10% of the samples ordinarily shall exceed an MPN of 230/100 ml for a 5-tube decimal dilution test (or 330/100 ml, where a 3-tube decimal dilution is used) in those portions of the area most probably exposed to fecal contamination during the most unfavorable conditions.
>
> In addition, the shellfish area is not to be so contaminated by radionuclides, pesticides, herbicides or fecal material so that consumption of the shellfish might be hazardous.*

b. Temperature standard to be established for lakes and impoundments receiving thermal discharges:

> In lakes and reservoirs, the temperature of the epilimnion, in those areas where important organisms are most likely to be adversely affected, shall not be raised more than 3°F. above that which existed before the addition of heat of artificial origin. The increase is to be based on the monthly average of the maximum daily temperature. Unless a special study shows that a discharge of a heated effluent into the hypolimnion (or pumping water from

---

* Based on National Shellfish Sanitation Program Manual of Operations

the hypolimnion for discharging back into the same water body) will be desirable, such practice shall not be approved.

c. Maximum temperature shall be 81°F., unless caused by natural conditions; the maximum rise above natural temperatures shall not exceed 5°F.

d. Chlorides not to exceed 800 mg/l at any time.

e. Chlorides not to exceed 40 mg/l at any time.

f. Chlorides not to exceed 8000 mg/l at any time.

g. Radiation standard:

1. radium-226 not to exceed 3 pc/l
strontium-90 not to exceed 10 pc/l

2. in the known absence of strontium-90 and alpha-emitting radionuclides, gross beta activity not to exceed 1000 pc/l

3. if the gross beta activity is in excess of this amount, a more complete radiochemical analysis is required to determine that the sources of radiation exposure are within the limits of the Radiation Protection Guides.

h. Objective for Nutrients - The cumulative total of nitrogen as N from all sources in the effluent shall not be greater than 0.5 mg/l at any time; phosphorus as P from all sources in the effluent shall not be greater than 1.0 mg/l at any time.

i. The State Water Control Board has directed and/or ordered the following:

1. That all existing discharges in accordance with h above shall substantially remove the nutrients in their effluents on or before such time as central facilities (The Hampton Roads Sanitation District Commission Chesapeake-Elizabeth System) become available or connect to central facilities, (i.e., The Chesapeake-Elizabeth System).

2. That it will consider approving small discharges to this watershed to facilitate the elimination of potential public health hazards provided central facilities (Chesapeake-Elizabeth System) are not available, and

3. That it will not allow additional significant new discharges to this watershed, which do not provide for nutrient removal facilities in accordance with h above.

j. Special Standard "t" amends the following criterion taken from Minute 73 of the proceddings of the Board at its meeting on July 11-12,1966:

For discharge to the Chickahominy River and its tributaries below Bottoms Bridge, effluent quality obtainable with conventional secondary sewage treatment plants with approved plans is acceptable, except that the following specifications shall be met:

Constituent	Analysis Schedule	Concentration
1 Coliform Organisms	Every 3 hrs every other day	Most probable number median of 100 per 100 ml with no greater than 10% of the samples to exceed 1000 per 100 ml
2 Inorganic Nutrients	Once/week on a composite sample	Nitrate (as N) not to exceed .5 ppm. Total phosphate (as PO_4) not to exceed 1.5 ppm
3 Other Physical and Chemical Constituents	Other physical or chemical constituents not specifically mentioned will be covered by additional specifications as conditions detrimental to the streams arise. The specific mention of items 1 and 2 does not necessarily mean that the addition of other physical or chemical constituents will be condoned.	

In lieu of the above requirements, conventional secondary sewage treatment plants may ordinarily be used anywhere in the Chickahominy River Basin, provided holding ponds, capable of retaining the entire plant effluent during low flow critical conditions, are constructed. "Low flow" is construed to mean less than 15 cubic feet per second in the main stem of the Chickahominy River itself at the (1) point of waste discharge to the main stem, or (2) confluence of a tributary below the point of waste discharge to the tributary. Below Bottoms Bridge, holding ponds with at least 60-day retention capacity (August 14 to October 13) may be required, if in the opinion of the Board's staff it is deemed necessary.

k. Special Standard "t' amends the following criterion taken from Minute 73 of the proceedings of the Board at its meeting on July 11-12, 1966:

Constituent	Analysis Schedule	Concentration
1 Dissolved Oxygen	Once/2 hr, 24 hr/day, 7 days/wk on grab samples	7.5 ppm (90% sat. at 25°C) average during the day, with no individual sample less than 6.7 ppm (80% sat. at 25°C)
2 Bio-chemical Oxygen Demand 5-day at 20°C	Once/24 hr on composite sample (how collected) 7 days/week	6.0 ppm average, with not more than 5% of individual samples to exceed 8.0 ppm
3 Settleable Solids	Same as for Dissolved Oxygen	Not to exceed 0.1 ml/litter
4 Suspended Solids	Same as for bio-chemical oxygen demand	5.0 ppm average, with not more than 5% of individual samples to exceed 7.5 ppm
5 Ammonia Nitrogen	Same as bio-chemical oxygen demand on specially preserved samples	Not to exceed 2.0 ppm as N

Constituent	Analysis Schedule	Concentration (Cont'd)
6 Residual Chlorine	Same as for dissolved oxygen but once every hour	As required to meet MPN specifications and prevent damage to aquatic life in streams
7 Coliform Organisms	Every 4 hours, every other day	Most Probable Number Median of 100 per 100 ml with no greater than 10% of the samples to exceed 1000 per 100 ml
8 pH	Same as for dissolved oxygen	Not less than 6.0 and not greater than 8.0
9 Inorganic Nutrients	Once/week on a composite sample	Nitrate (as N) not to exceed .3 ppm. total phosphate (as PO_4) not to exceed .6 ppm (mean values in the Chickahominy
10 Other Physical and Chemical Constituents	Other physical or chemical constituents not specifically mentioned will be covered by additional specifications as conditions detrimental to the stream arise. The specific mention of items 1 through 9 does not necessarily mean that the addition of other physical or chemical constituents will be condoned.	

In lieu of the above requirements, conventional secondary sewage treatment plants may ordinarily be used anywhere in the Chickahominy River Basin, provided holding ponds, capable of retaining the entire plant effluent during low flow critical conditions, are constructed. "Low flow" is construed to mean less than 15 cubic feet per second in the main stem of the Chickahominy River itself at the (1) point of waste discharge to the main stem, or (2) confluence of a tributary below the point of waste discharge to the tributary. Above Bottoms Bridge the holding ponds are to retain the entire plant effluent for at least 90 days (July 15 to October 13).

l. The following, from Minute 1 of the proceedings of the Board at its meeting on July 20-21, 1965, will also apply:

> 2. All known existing treated discharges containing bacteria shall be chlorinated sufficiently and continuously (100% of the time) to maintain a residual which will insure substantially complete removal of coliform organisms. This action is to be instituted immediately by all concerned owners.
>
> 3. All owners now discharging industrial wastes and sewage shall install facilities which will provide the maximum possible degree of biochemical oxygen demand (B.O.D.) removal; in addition, the effluent from such facilities shall contain a minimum of 5 mg/l of dissolved oxygen (D.O.).
>
> 4. All owners in the area (City of Suffolk, County of Nansemond, industrial establishments and individuals) shall immediately take steps to collect and treat, in accordance with items 2 and 3 above, the wastes that are now being discharged untreated,either directly or indirectly to the River and Shingle Creek and which now constitute a health hazard to the area.
>
> 5. The City of Suffolk, the County of Nansemond, and those private owners who are now discharging sewage and industrial wastes to these waters are to immediately initiate programs to formulate a plan, or alternative plans, for improving water quality in the River and Shingle Creek. Alternative plans may include conveying all wastes completely from out of this watershed for treatment and/or disposal. Only under exceptional circumstances will additional discharges of treated wastes into these waters be permitted.

m. Zinc (total) not to exceed 0.5 mg/l at any time.

n. The following from Minute 32 of the proceedings of the Board at its meeting on September 13, 1960, will also apply:

> The concentration and total amount of impurities in Tuckahoe Creek and its tributaries of sewage origin shall be limited to those amounts from

which are now present in the stream from natural sources and from existing discharges in the watershed.

o. The following, from Minute 38 of the proceedings of the Board at its meeting on March 30, 1955, will also apply:

1. No sewage discharges, regardless of degree of treatment, should be allowed into the James River between Bosher's and Williams Island Dams.

p. The following criteria from Minute 59 of the proceedings of the Board at its meeting on May 17-18, 1966, (amended April 8, 1970), will be applied to proposals for sewage treatment facilities which will discharge effluent to Williams and Upper Machodoc Creeks, King George County:

1. If raw sewage stabilization ponds are proposed, they shall be followed by a 15-day holding pond and chlorination facilities in duplicate;
2. If "conventional" sewage treatment facilities are proposed, they shall effect at least 85% removal of B.O.D. and shall be followed by a 15-day holding pond and chlorination facilities in duplicate;
3. Chlorination facilities are to be operated continuously during the entire year and chlorine residual of at least 2.0 ppm shall be maintained at all times;
4. In sewerage systems where pumping stations are found to be necessary, they shall be designed to prevent the discharge of raw sewage to State waters;
5. If, in the opinion of the staff, following consultation with the State Department of Health it is determined that more satisfactory water quality can thereby be maintained in the receiving stream, the holding pond shall be operated to provide for controlled flow discharge.

q. The following, from Minute 71 of the proceedings of the Board at its meeting on June 30-July 1, 1964, will also apply:

> In the future no proposals resulting in the discharge of treated wastes to Aquia Creek will be approved, unless the following is provided:
>
> (A) At least 100 days' storage to allow complete elimination of discharges during the low-flow summer months or
>
> (B) Other treatment, based on sound engineering concepts (preferably with experimental data to show their feasibility), be provided for nutrient removal prior to discharge.

r. The following will also apply to the Occoquan Creek Watershed:

> "The Board decided (1) to approve all plans, preliminary and final, for sewage treatment facilities involving effluent discharges to the Occoquan Creek watershed which had been forwarded to it on or before September 1, 1963, by the State Department of Health" (equivalent at that time to a total approved population of 50,000 persons on the watershed)" and (2) in the case of proposals received after September 1, 1963, for discharges of effluents from waste treatment facilities to Occoquan Creek watershed, approval will be given only after the Board is satisfied, on the basis of additional data to be collected by its staff in cooperation with the State Department of Health and such other agencies as may be able to render assistance, that water quality in the watershed will not be rendered unsatisfactory for present or future uses." (Reference Minute 76-- September 27, 1963)
>
> "...Following considerable discussion, including the fact that Fauquier County had been severely limited in development as a result of past Board action with respect to the watershed, the Board decided that:
>
> (1) It was willing to permit the discharge of treated sewage effluent from an additional 25,000 persons with the stipulation that:

(a) nutrient removal facilities be constructed in each case,

(b) some overall program of water surveillance be instituted by the owners,

(c) each new plant, if designed according to theoretical or experimental principles, be preceded by adequate pilot studies and that any such construction be in accordance with design backed up by such pilot study information and,

(d) each owner was to understand that nutrient removal facilities might not prevent eutrophication and other problems in the Occoquan impoundment and that in such cases each owner is to take such additional steps as are necessary to correct the situation.

(2) Although it was willing to allocate that 25,000 population among the contending political subdivisions, all affected political subdivisions are to submit an acceptable, agreeable distribution of the 25,000 population minus a 6,000 population allocation granted to the Town of Warrenton as contained in Minute 57 from the proceedings of this meeting." (Reference Minute 56--March 28, 1967.)

s. The following, from Minute 20 of the proceedings of the Board at its meeting on January 16, 1969, will also apply to the Powhatan Creek Watershed:

1. All proposals for treated waste discharges to the Powhatan Creek Watershed will in the future be approved only after:

(a) Engineering data has been submitted indicating the capability of the proposed treatment facilities to remove all phosphorus and nitrogen compounds.

(b) Owners with facilities existing at the time of this action will, in a period not to exceed 60 days, submit to the Board, engineering reports and pollution abatement schedules indicating the maximum concentrations of phosphorus and nitrogen compounds which they can remove from waste waters prior to discharge. No schedule providing a time period exceeding three years will be approved. Modification or replacement of existing treatment facilities may be necessary.

2. It will entertain from owners in the area a proposal for development of:

   (a) A central facility to treat all wastes at a point outside the Watershed, where phosphorus and nitrogen removal will probably not be necessary, or

   (b) Treatment facilities inside the Watershed which include complete removal of all phosphorus and nitrogen compounds.

3. If the above plan is accompanied by a firm schedule leading to completion of sewage treatment facilities within a reasonable length of time, and it can be demonstrated that the financing for the facilities is available, the Board will consider allowing interim construction of sewage treatment facilities in the Powhatan Creek Watershed without the requirement of phosphorus and nitrogen compound removal.

t. (Applicable to intrastate waters of the James River Basin in sections 4, 4a, 5, 5a, and 5b.)

Effluent standards for the entire Chickahominy Watershed above Walker's Dam; approved and adopted by the Board in Unanimous Letter Ballot 2144, completed February 22, 1971; are effective March 31, 1971.

CONSTITUENT	CONCENTRATION
1. Dissolved Oxygen	5.0 mg/l
2. Bio-chemical Oxygen demand 5-day at 20°	6.0 mg/l average, with not more than 5% of individual samples to exceed 8.0 mg/l
3. Settleable Solids	Not to exceed 0.1 mg/liter
4. Suspended Solids	5.0 mg/l average, with not more than 5% of individual samples to exceed 7.5 mg/l
5. Ammonia Nitrogen	Not to exceed 2.0 mg/l as N
6. Residual Chlorine	2 mg/l

CONSTITUENT	CONCENTRATION
7. Coliform Organisms	Fecal coliforms (Multiple-tube fermentation or MF count) within a 30-day period not to exceed a log mean of 200/100 ml. Not more than 10% of samples within a 30-day period will exceed 400/100 ml.
8. pH	Not less than 6.0 and not greater than 8.5
9. Total Phosphorus	Total phosphorus not to exceed 0.10 mg/l
10. Other Physical and Chemical Constituents	Other physical or chemical constituents not specifically mentioned will be covered by additional specifications as conditions detrimental to the stream arise. The specific mention of items 1 through 9 does not necessarily mean that the addition of other physical or chemical constituents will be condoned.

Section 6. Designated Water Uses and Water Quality Criteria

Through the public hearing process, the Commonwealth of Virginia has adopted the designated water uses and water quality criteria assigned to the individual streams listed in this section. The designated water uses and type stream assigned to specific streams or sections, appears under the "class" column. The major class is indicated by a romar numeral and the subclass is designated by a capital A or B. The key to the stream class is given in Section 2. In addition, certain stream zones are assigned additional criteria which is listed under "Special Standards". The key to these special standards, indicated by a letter is given in Section 5 where "Public Water Supply" appears, the criteria in Section le apply.

The stream zone to which these criteria apply is described under the column "Section". These numbered zones to which the criteria apply also appear on the companion exhibit for the river basin section.

For additional reference, a sketch of the State also precedes each subsection. This sketch shows where the applicable stream basin is located within the State.

The uses and criteria assigned to the interstate waters of Virginia are grouped by river basin. An index of subsections and river basins follows:

Subsection	River Basin
6A	Big Sandy
6B	Clinch River
6C	Holston River
6D	New River
6E	Roanoke River
6F	Chowan River
6G	Shenandoah River
6H	Rappahannock River
6I	York River
6J	James River--Lower
6K	James River--Middle
6L	James River--Upper
6M	Chesapeake Bay & Atlantic Ocean
6N	Yadkin River
6O	Albemarle Sound
6P	Potomac River

Water Quality Standards Summary

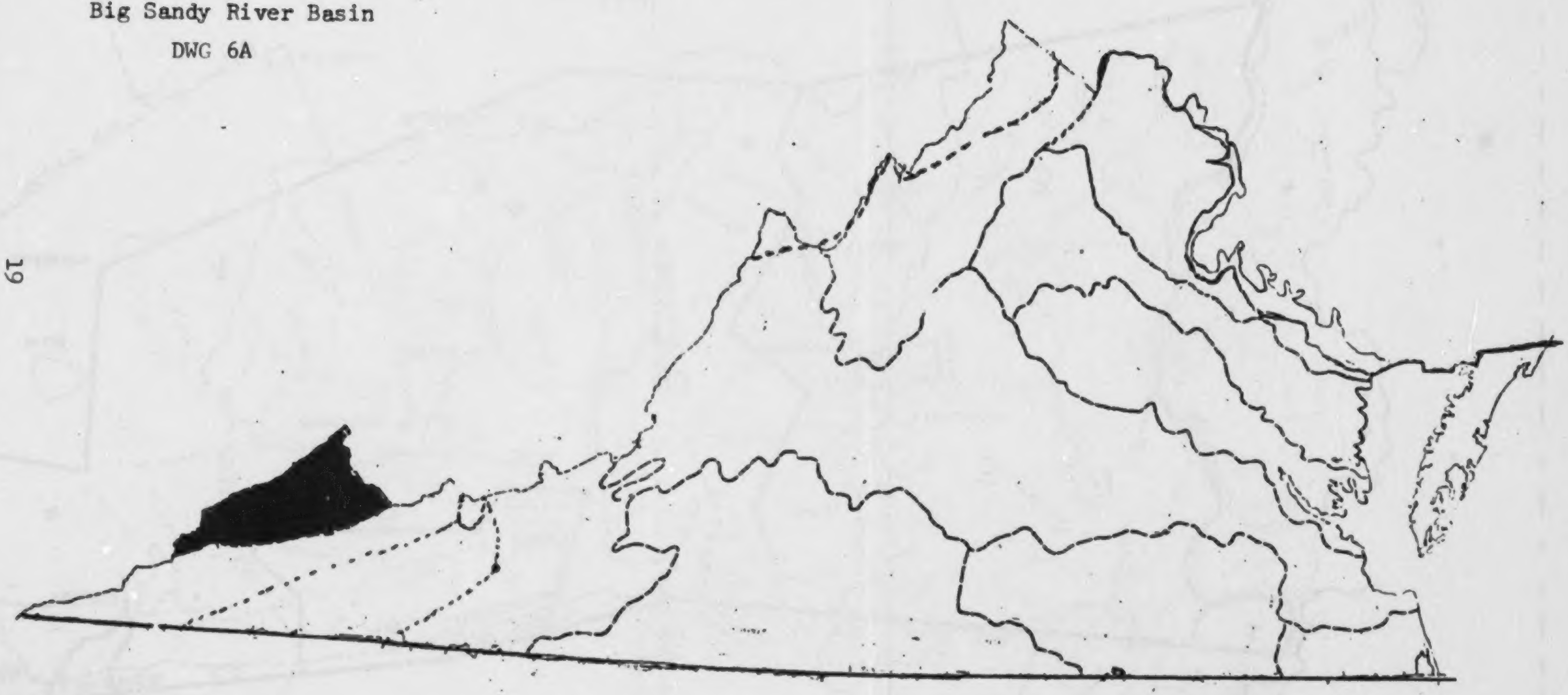
Section 6A

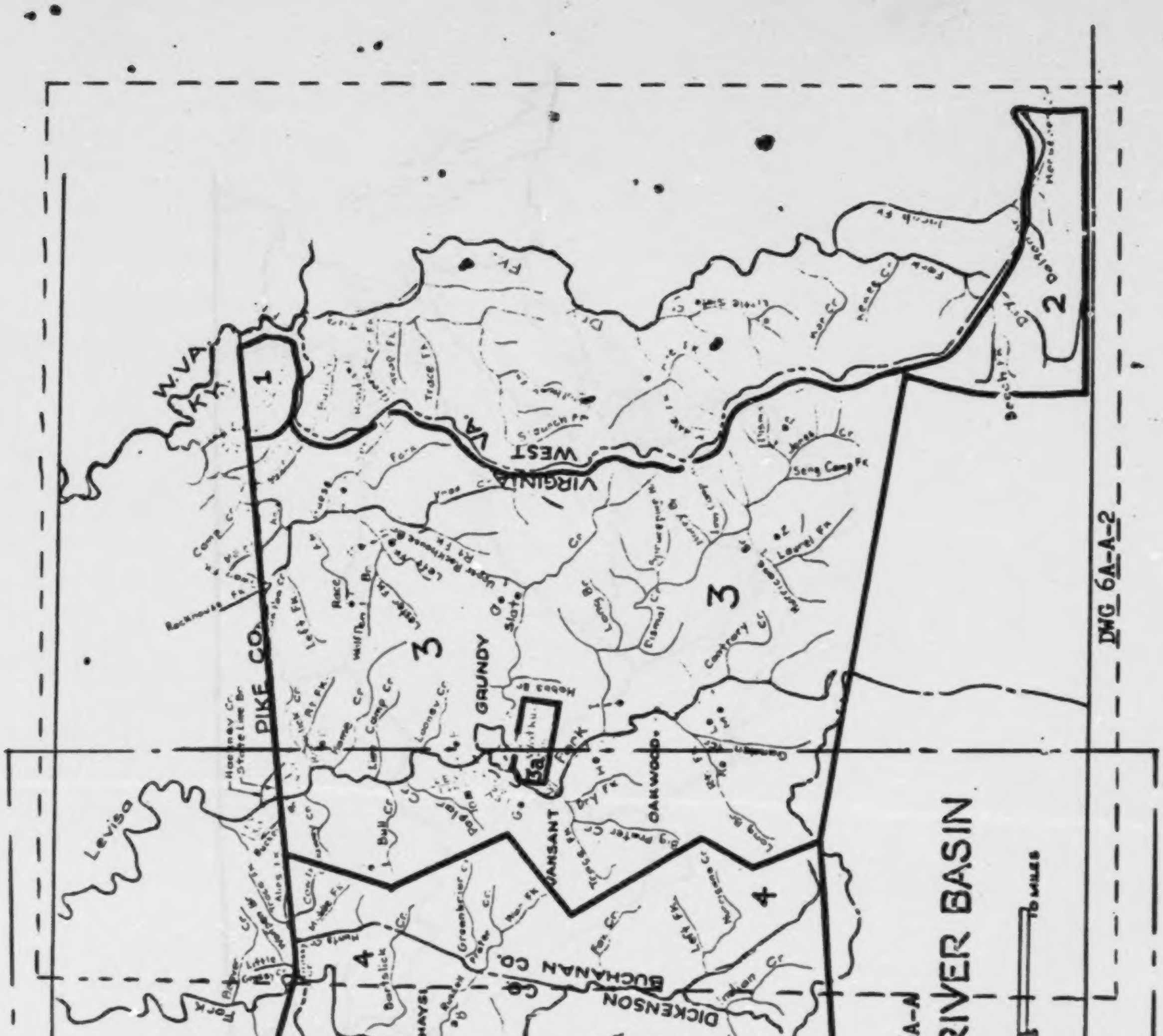
Big Sandy River Basin

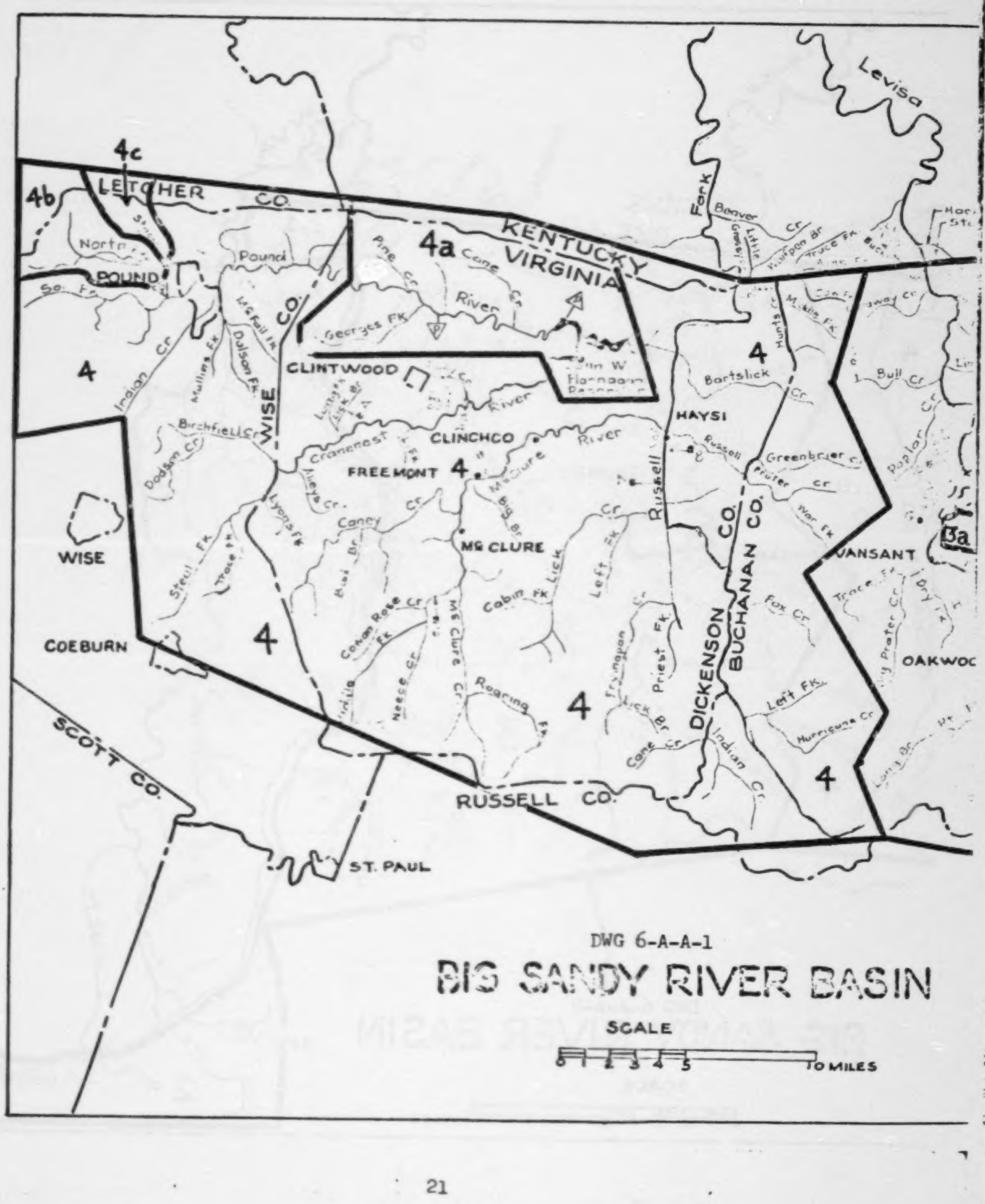
18a

Big Sandy River Basin

DWG 6A



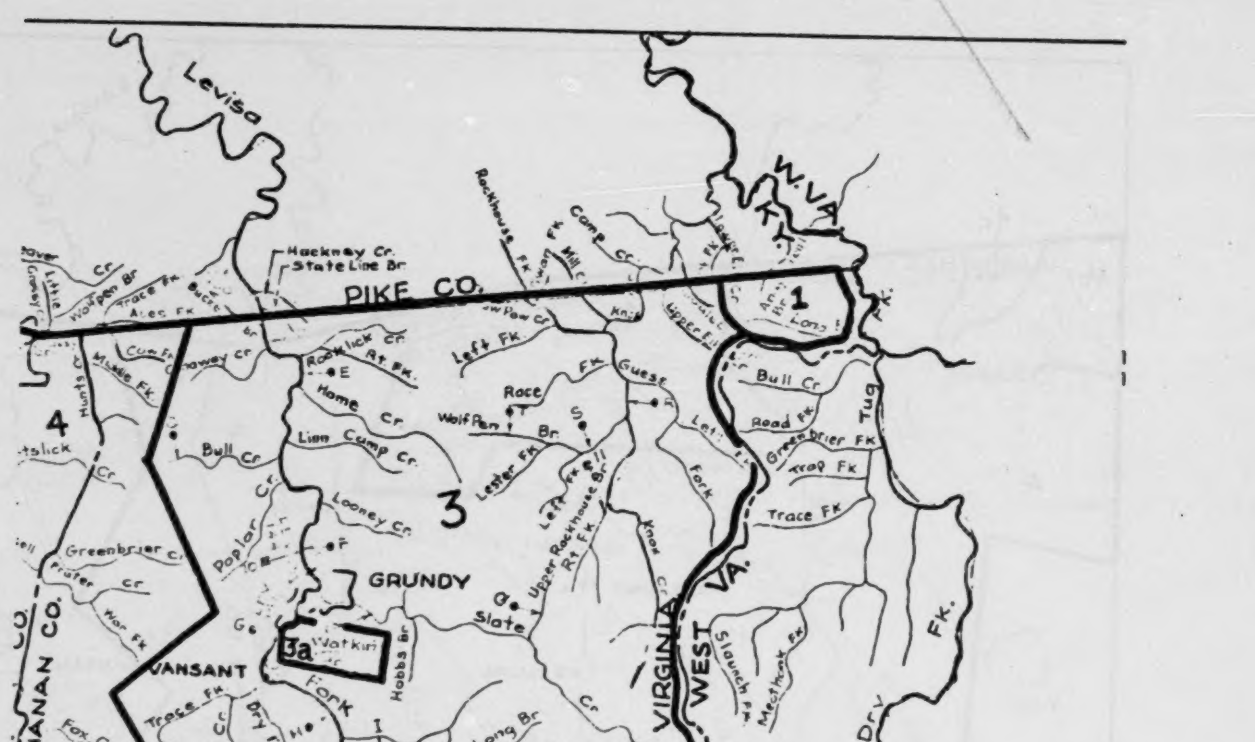

BIG SANDY RIVER BASIN
DWG 6A-A
SCALE
10 MILES
DWG 6A-A-1
DWG 6A-A-2
W.VA.
KY.
WEST VIRGINIA
VA.
KENTUCKY
VIRGINIA
PIKE CO.
BUCHANAN CO.
DICKENSON CO.
RUSSELL CO.
WISE CO.
SCOTT CO.
LETCHER CO.
GRUNDY
OAKWOOD
VANSANT
HAYSI
CLINTWOOD
CLINCHCO
McCLURE
FREEMONT
POUND
WISE
COEBURN
ST. PAUL
Levisa Fork
John W. Flannagan Reservoir
Russell Fork
1
2
3
3
3
4
4
4
4
4
4
4a
4b
4c
5a



DWG 6-A-A-1

BIG SANDY RIVER BASIN

SCALE



DWG 6-A-A-2

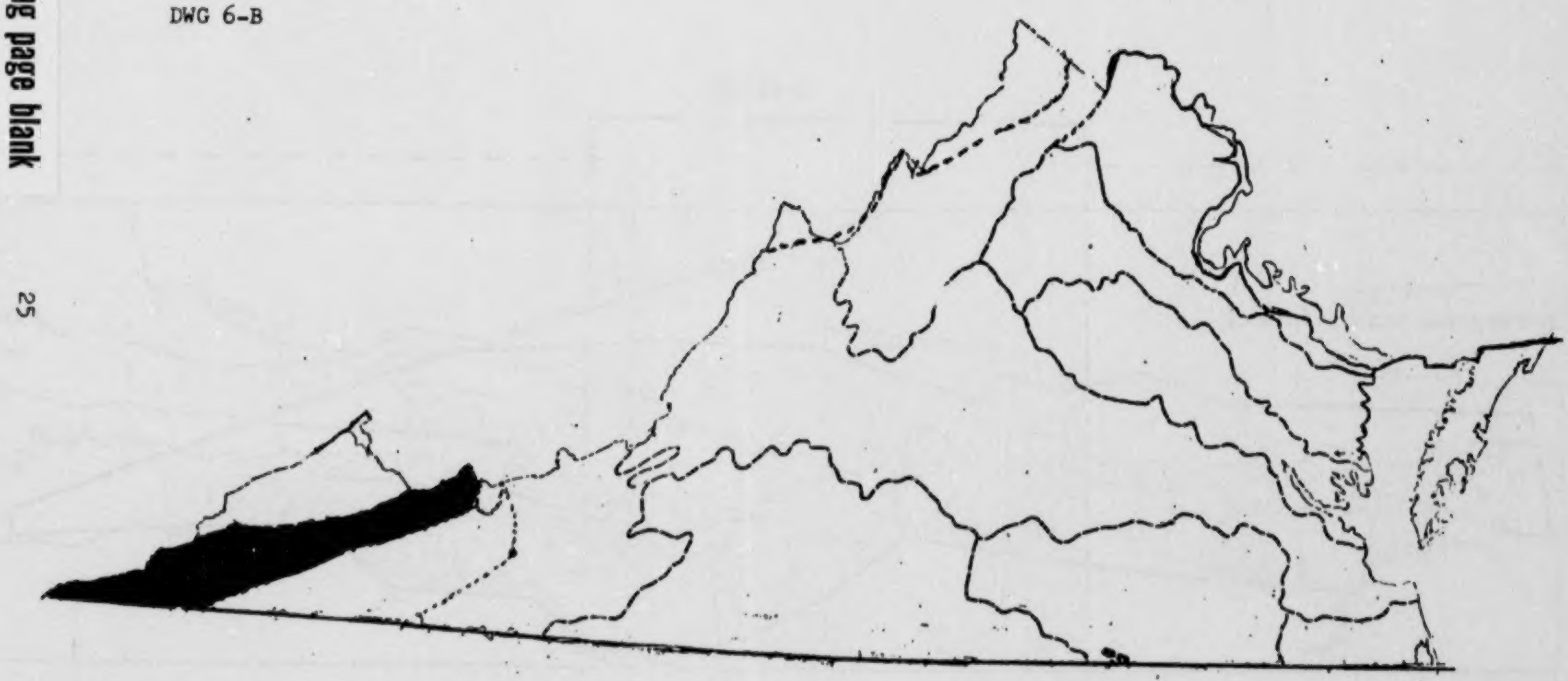
BIG SANDY RIVER BASIN

BIG SANDY RIVER BASIN

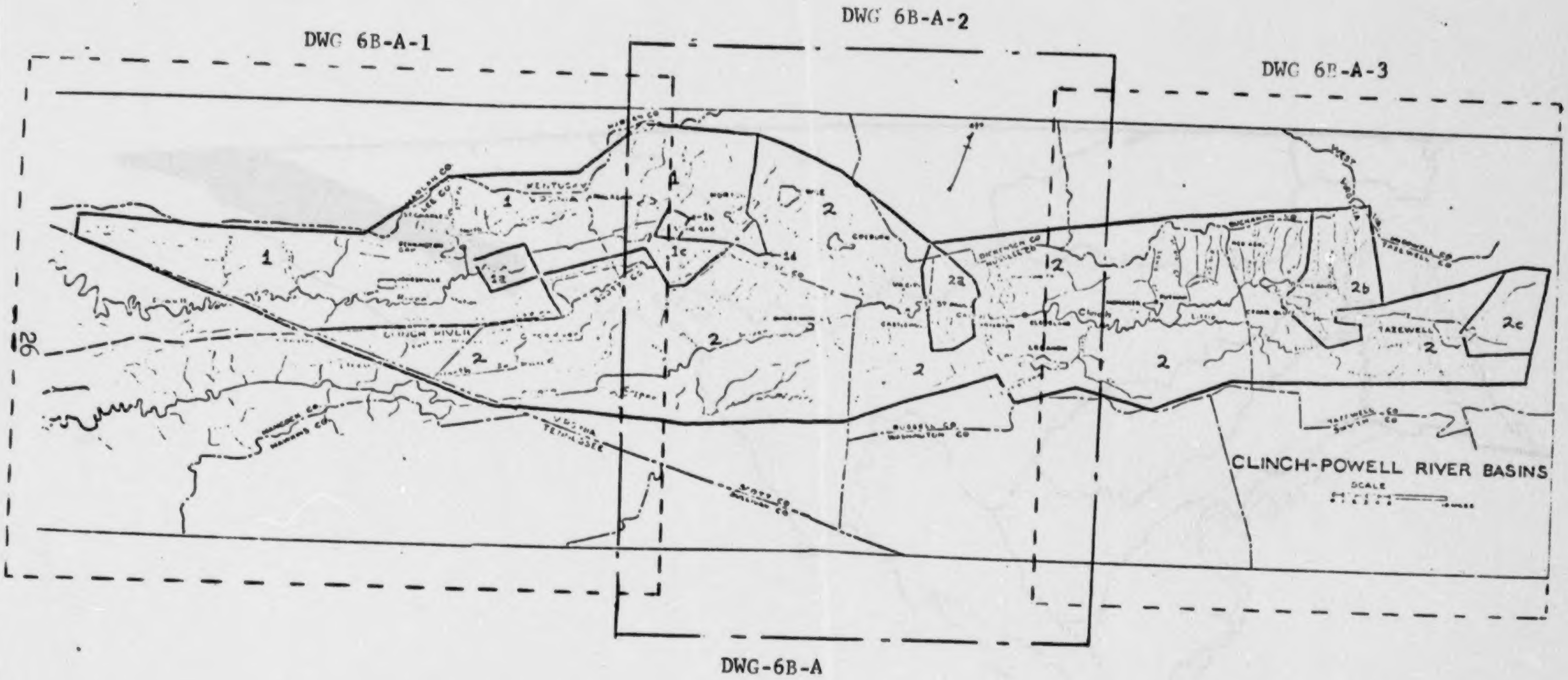
Section	Section Description	Class	Special Standards
1	All tributaries of Tug Fork in Virginia	IV B	
2	All tributaries of Jacob Fork and Dry Fork in Virginia	IV B	
3	Levisa Fork and its tributaries and Knox Creek and its tributaries, unless otherwise designated, from the Virginia-Kentucky state line upstream to their headwaters	IV A	
	Trout Waters in Section 3:		
	Put and Take:	V A	
	Slate Creek from the northern corporate limits of Grundy to the Slate post office		
3a	Watkins Branch from Grundy's raw water supply dam upstream to its headwaters	IV A	Public Water Supply
4	Russell Fork and its tributaries, unless otherwise designated, from the Virginia-Kentucky state line upstream to their headwaters	IV A	
	Trout Waters in Section 4:		
	Put and Take:	V A	
	Caney Creek from Long Branch Creek upstream 5.5 miles.		
	Fryingpan Creek from its confluence with Russell Fork upstream to junction of stream and routes 604 and 600.		
	North Fork Pound River from town limits of Pound upstream to water supply dam.		
	Natural:	VI A	
	Russell Fork from the Virginia-Kentucky state line to the confluence with the Pound River		
	Pound River to John W. Flannagan Dam		
4a	The Pound River and its tributaries from the John W. Flannagan Dam, including the John W. Flannagan Reservoir, to 5 miles above Clintwood's raw water intake.	IV B	b Public Water Supply
4b	Pound River from North Fork Pound River Dam upstream to its headwaters and Stacy Branch upstream to Pound's raw water intake.	IV A	Public Water Supply
4c	Stacy Branch from Pound's raw water intake upstream to its headwaters.	IV A	Public Water Supply

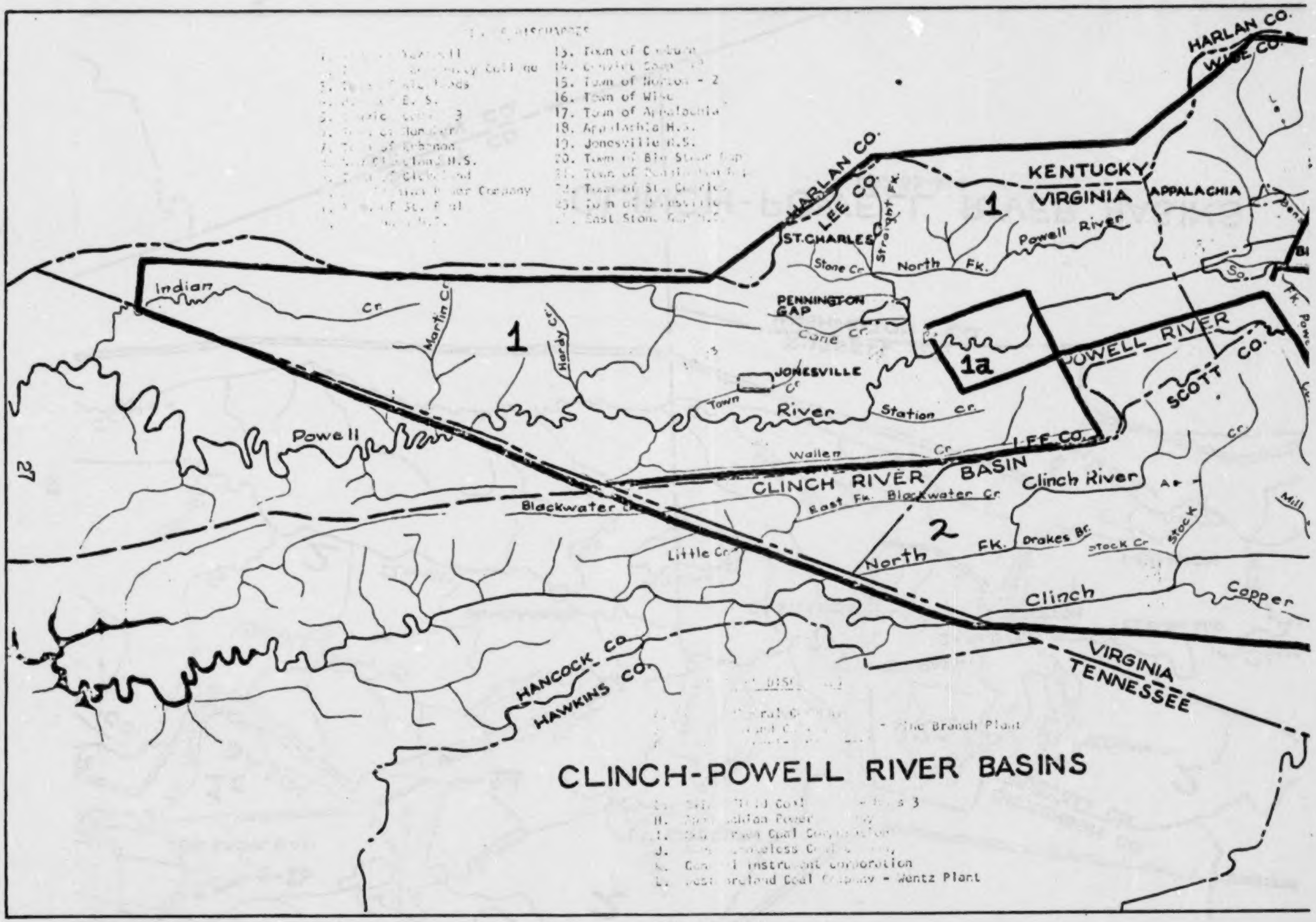
Clinch River Basin

DWG 6-B



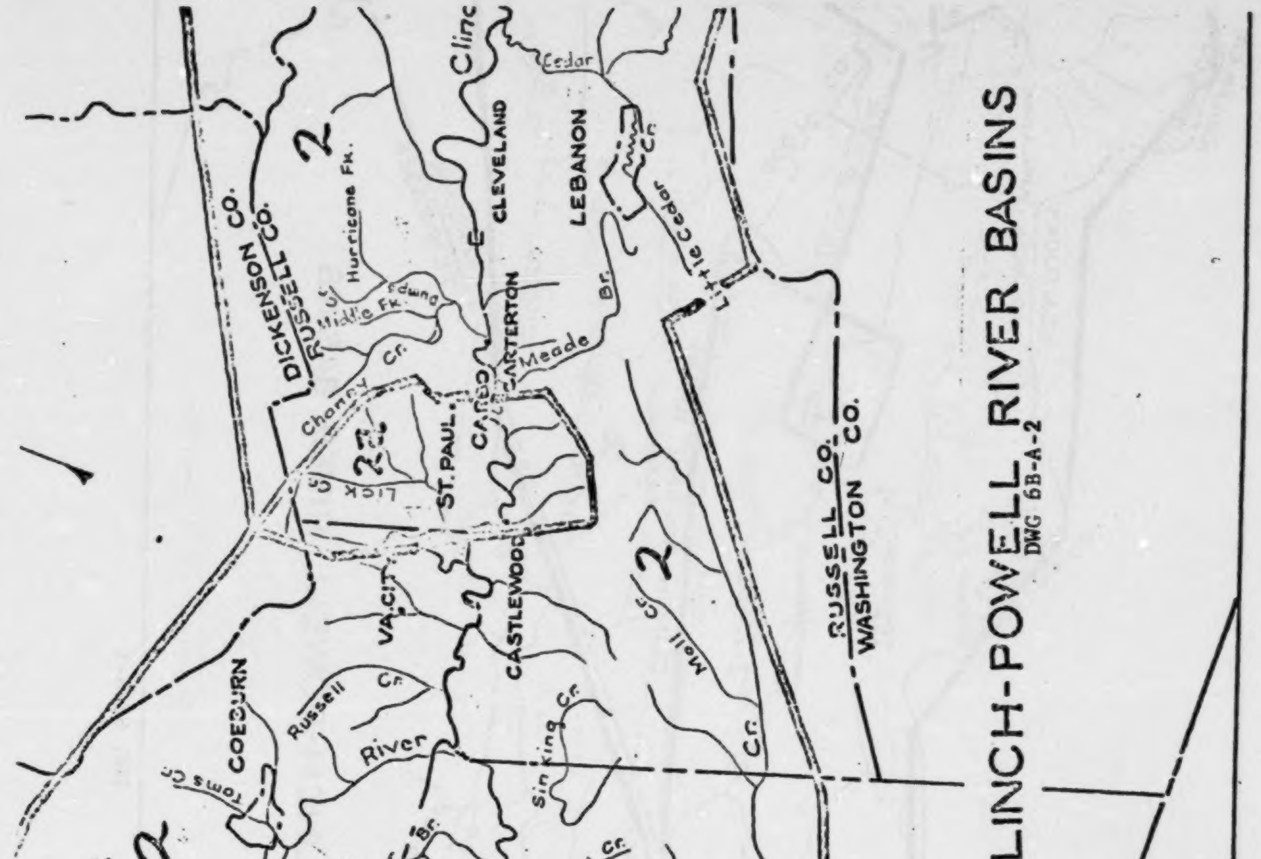
Preceding page blank


DWG 6B-A-1
DWG 6B-A-2
DWG 6B-A-3
DWG-6B-A
CLINCH-POWELL RIVER BASINS
SCALE
1
1a
1b
1c
2
2a
2b
2c
KENTUCKY
CLINCH RIVER
TAZEWELL
VIRGINIA
TENNESSEE
RUSSELL CO
WASHINGTON CO
TAZEWELL CO
SMYTH CO
BUCHANAN CO
DICKENSON CO
SCOTT CO



CLINCH-POWELL RIVER BASINS

DWG 6B-A-1



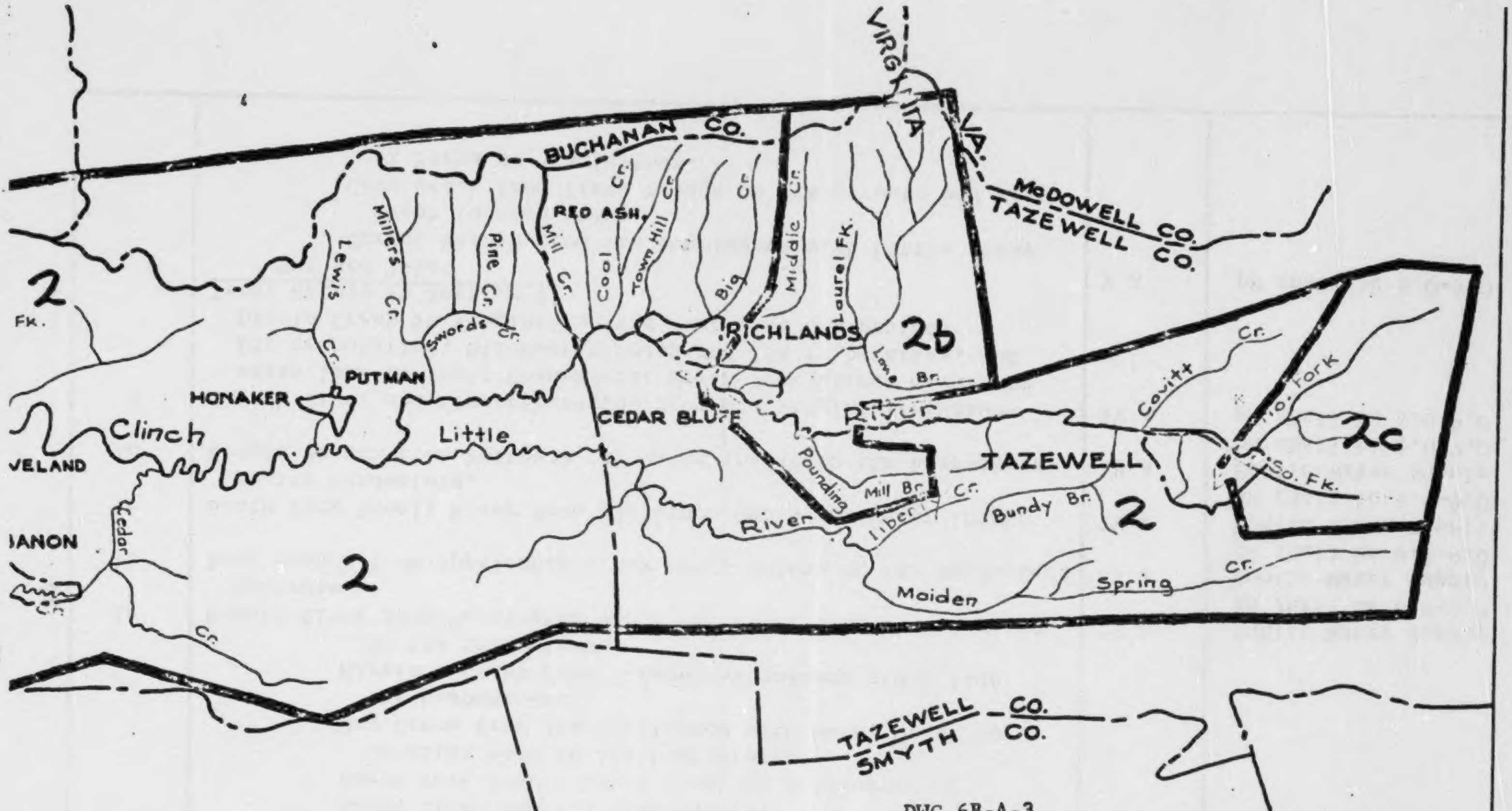
CLINCH-POWELL RIVER BASINS

Water Quality Standards Summary

Section 6B

Clinch River Basin

28a



DWG 6B-A-3

CLINCH-POWELL RIVER BASINS

SCALE

0 1 2 3 4 5 10 MILES

SEWAGE DISCH... SAMPLING STATIONS △S

INDUSTRIAL DISCH... GAGING STATIONS △G

STREAM SECTION BOUNDARY ———

See Standard Schedule for each Section

WATER SUPPLIES PUBLIC △P

INDUSTRIAL △I

S.S.B.
11-66
Rev. 5-68

CLINCH RIVER BASIN

Section	Section Description	Class	Special Standards
1	Powell River and its tributaries from the Virginia-Tennessee state line to their headwaters; Indian Creek and Martin Creek in Virginia unless otherwise designated.	IV A	pH shall be 6.0-9.0
	Trout Waters in Section 1: Put and Take: North Fork Powell River above Pennington Gap to the confluence of Straight Fork.	V A	pH shall be 6.0-9.0
	Natural: Hardy Creek and its tributaries. North Fork Powell River from the confluence of Straight Fork to its headwaters. Dry Creek from its confluence with Hardy Creek to its headwaters. Martin's Creek from Virginia-Tennessee state line to its headwaters.	VI A	pH shall be 6.0-9.0
1a	Powell River from Pennington Gap's raw water intake to 5 miles upstream.	IV A	Public Water Supply pH shall be 6.0-9.0
1b	Bens Branch from Appalachia's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0
1c	South Fork Powell River from Big Stone Gap's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0
1d	Benges Branch from Norton's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0
2	Clinch River and its tributaries from the Virginia-Tennessee state line to their headwaters; North Fork Clinch River and its tributaries, Blackwater Creek and its tributaries, and Little Creek in Virginia unless otherwise designated.	IV A	pH shall be 6.0-9.0
	Trout Waters in Section 2: Put and Take: Corder Branch from its confluence with Little Stony Creek to headwaters. Cove Creek from first bridge on State route 649 west of Kerns to Stanleytown.	V A	pH shall be 6.0-9.0

CLINCH RIVER BASIN (cont.)

Section	Section Decription	Class	Special Standards
	Little Stony Creek from intersection of stream and route 72 upstream to headwaters.		
	Stock Creek from ¼ mile north of Sunbright to 1½ miles north of Mabe.		
	Stony Creek from Fort Blackmore upstream to its headwaters.		
	Natural:	VI A	pH shall be 6.0-9.0
	Big Cedar Creek from confluence with Little Cedar Creek to its headwaters.		
	Little Cedar Creek from confluence with Big Cedar Creek to its headwaters.		
2a	Clinch River from St. Paul's raw water intake to 5 miles upstream, and its tributaries to their headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0
2b	Clinch River from Richlands raw water intake to 5 miles upstream, and its tributaries to their headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0
2c	Clinch River and its tributaries from Tazewell's raw water intake to their headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0

Water Quality Standards Summary

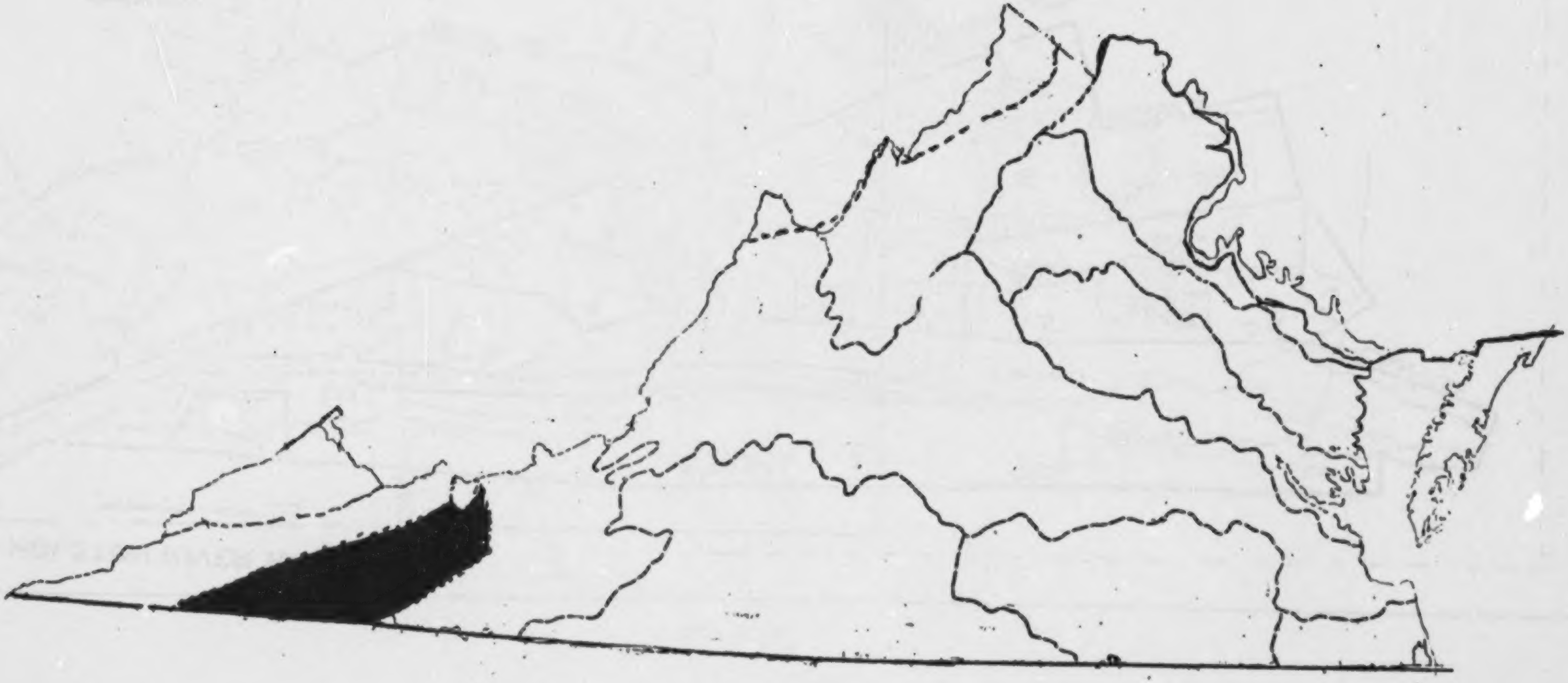
Section 6C

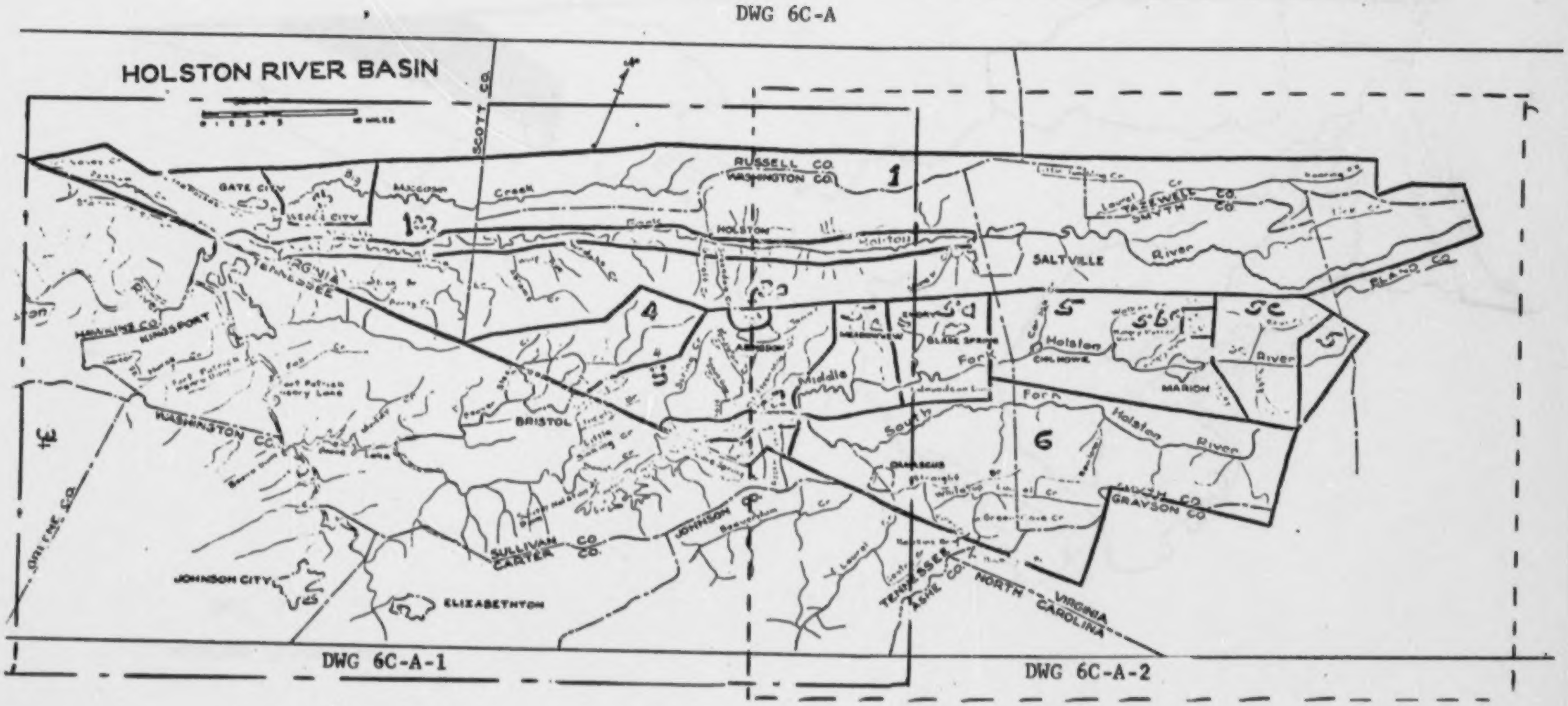
Holston River Basin

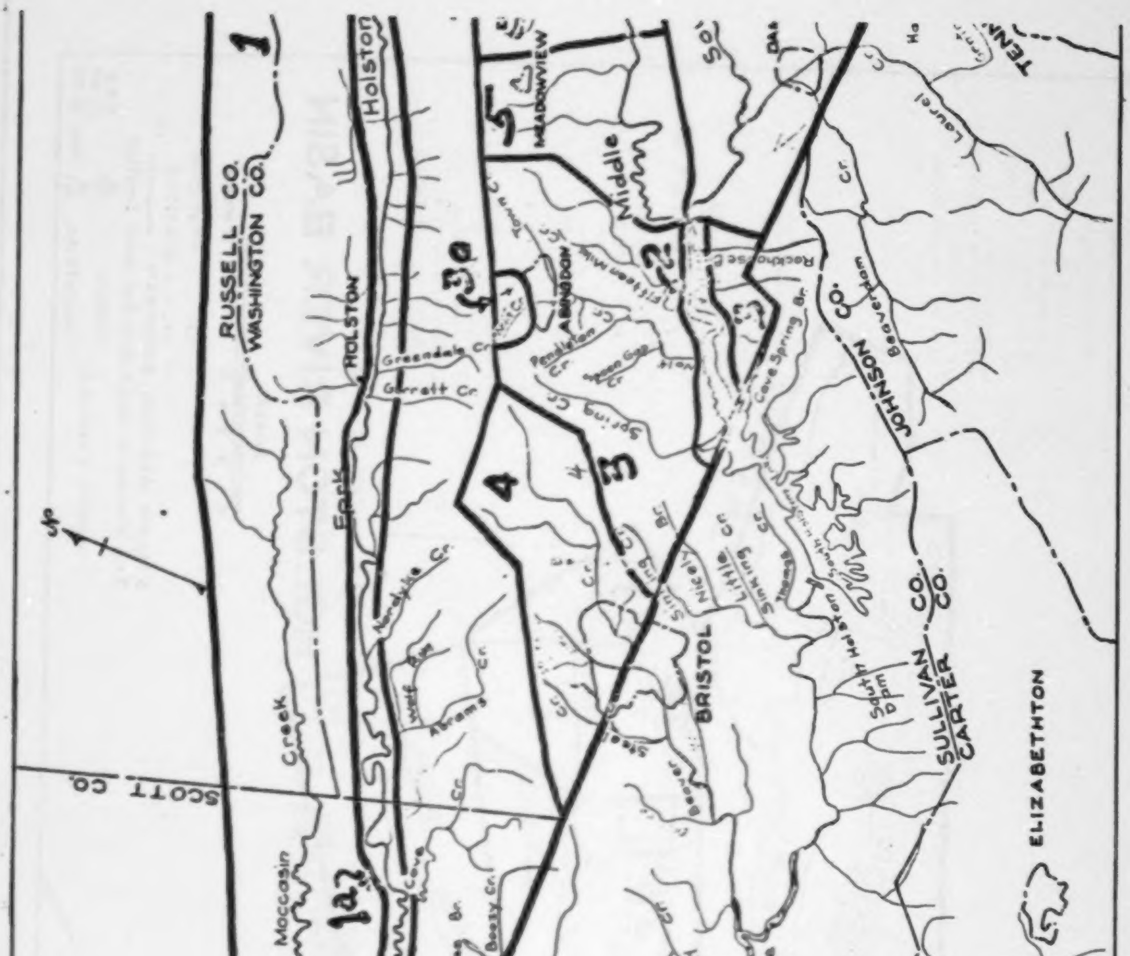
32

Holston River Basin

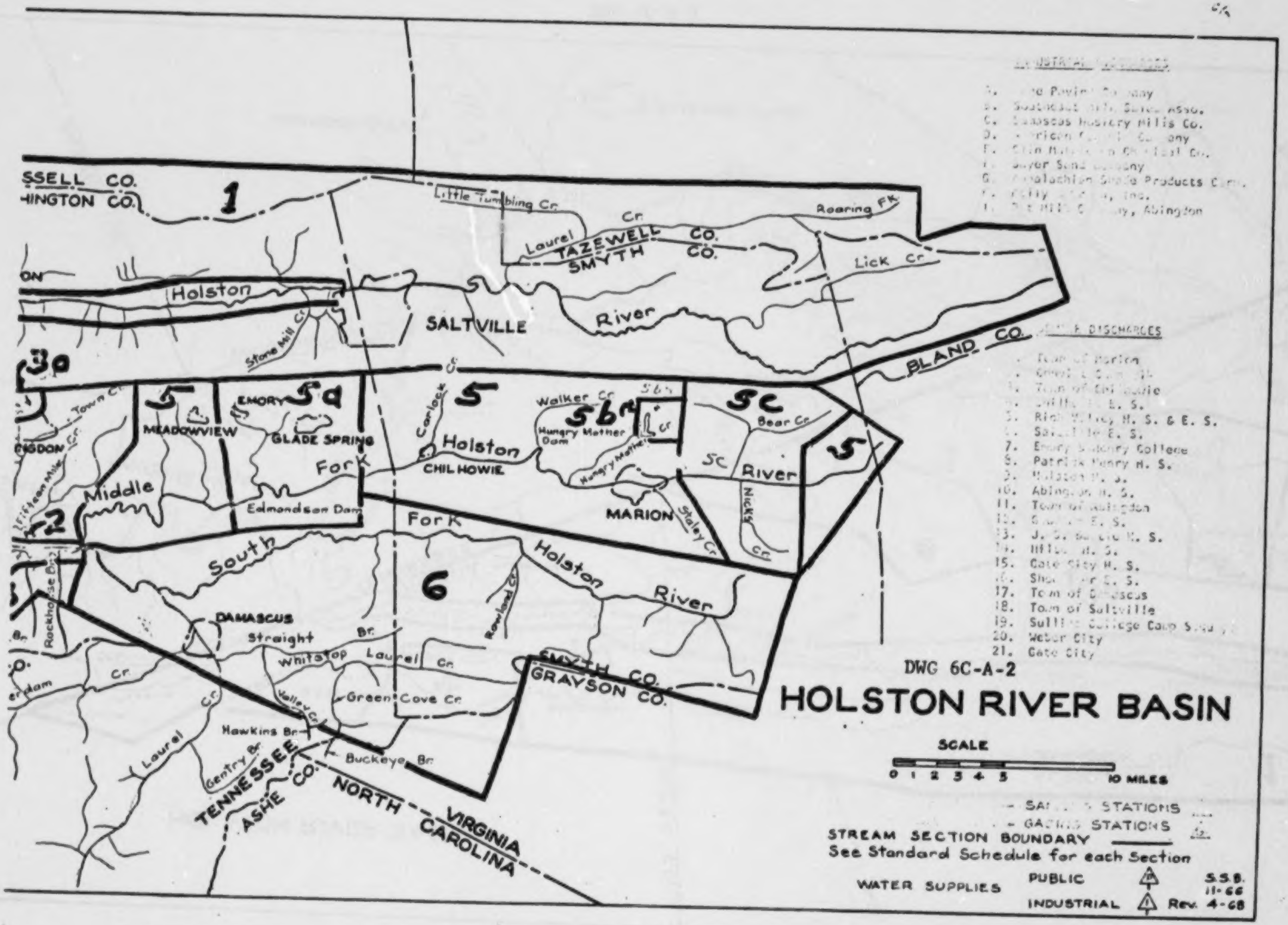
DWG 6-C




DWG 6C-A
HOLSTON RIVER BASIN
SCOTT CO.
RUSSELL CO.
WASHINGTON CO.
1
TAZEWELL CO.
SMYTH CO.
BLAND CO.
GATE CITY
WEBER CITY
Big Moccasin Creek
North Fork Holston
SALTVILLE
River
Laurel Cr.
4
5
5a
5b
5c
5d
6
ABINGDON
MEADOWVIEW
GLADE SPRING
CHILHOWIE
MARION
Middle Fork Holston
South Fork Holston River
VIRGINIA
TENNESSEE
HAWKINS CO.
KINGSPORT
BRISTOL
WASHINGTON CO.
SULLIVAN CO.
CARTER CO.
JOHNSON CO.
GRAYSON CO.
DAMASCUS
Whitetop Laurel Cr.
ASHE CO.
NORTH CAROLINA
JOHNSON CITY
ELIZABETHTON
GREENE CO.
3
DWG 6C-A-1
DWG 6C-A-2


HOLSTON RIVER BASIN
RUSSELL CO.
WASHINGTON CO.
SCOTT CO.
VIRGINIA
TENNESSEE
HAWKINS CO.
SULLIVAN CO.
CARTER CO.
JOHNSON CO.
WASHINGTON CO.
GREENE CO.
KINGSPORT
BRISTOL
ABINGDON
MEADOWVIEW
GATE CITY
WEBER CITY
JOHNSON CITY
ELIZABETHTON
North Fork Holston
Holston
Holston River
Middle
South Holston Dam
Boone Lake
Boone Dam
Fort Patrick Henry Lake
Fort Patrick Henry Dam
Big Moccasin Creek
Little Moccasin Cr.
Possum Cr.
Stanley Valley Cr.
Cove Cr.
Timbertree Br.
Beasy Cr.
Abrams Cr.
Wolf Run
Nordyke Cr.
Greendale Cr.
Garrett Cr.
Spring Cr.
Pendleton Cr.
Fifteen Mile Cr.
Cove Spring Br.
Beaverdam Cr.
Laurel Cr.
Little Cr.
Sinking Cr.
Nicely Br.
Steele Cr.
Beaver Cr.
Muddy Cr.
Fall Cr.
Horse Cr.
Walker Fk.
1
1a
1b
2
3
3a
4
5

DWG 6C-A-1



DWG 6C-A-2

HOLSTON RIVER BASIN

HOLSTON RIVER BASIN

Section	Section Description	Class	Special Standards
1	North Fork Holston River and its tributaries, unless otherwise designated, from the Virginia-Tennessee state line to their headwaters, and those sections of Timbertree Branch and Boozy Creek in Virginia.	IV A	pH shall be 6.0-9.0
	Trout Waters in Section 1: Put and Take: Laurel Creek within Thomas Jefferson National Forest boundaries. Little Tumbling Creek from Tannersville upstream to where powerline crosses stream.	V A	pH shall be 6.0-9.0
	Natural: Brumley Creek from confluence with North Fork Holston River to its headwaters. Laurel Creek from route 16 to confluence with Roaring Fork. Lick Creek from confluence with North Fork Holston River to its headwaters. Little Tumbling Creek from powerline crossing to its headwaters. Roaring Fork Creek from confluence with Laurel Creek to its headwaters. Big Tumbling Creek from confluence with North Fork Holston River to its headwaters.	VI A	pH shall be 6.0-9.0
1a	North Fork Holston River from the Olin Corporation to the Virginia-Tennessee state line.	IV A	Total dissolved solids not to exceed 500 mg/l pH shall be 6.0-9.0
1b	Big Moccassin Creek from Weber City's raw water intake to a point 6 miles upstream.	IV A	Public Water Supply pH shall be 6.0-9.0
2	All waters of the South Holston Lake in Virginia.	IV B	b Public Water Supply pH shall be 6.0-9.0
3	Tributaries of the South Holston Lake, and Sinking Creek, and Nicely Branch in Virginia unless otherwise designated.	IV A	pH shall be 6.0-9.0

HOLSTON RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Trout Waters in Section 3:		
	Natural:		
	Fifteen Mile Creek from confluence with the South Holston Lake to its headwaters.	VI A	pH shall be 6.0-9.0
	Spring Creek from confluence with South Holston Lake to its headwaters.		
3a	Wolf Creek and its tributaries from the northern corporate limits of Abingdon to their headwaters	IV B	pH shall be 6.0-9.0
4	Steel Creek and Beaver Creek and their tributaries in Virginia.	IV B	pH shall be 6.0-9.0
	Trout Waters in Section 4:		
	Natural:		
	Beaver Creek and its tributaries from the flood control dam (near route 11) to their headwaters.	VI B	pH shall be 6.0-9.0
5	Middle Fork Holston River and its tributaries unless otherwise designated.	IV A	pH shall be 6.0-9.0
	Trout Waters in Section 5:		
	Natural:		
	Middle Fork Holston River from eastern town limits of Marion to its headwaters.	VI A	pH shall be 6.0-9.0
	Staley Creek from its confluence with Middle Fork Holston River to its headwaters,		
5a	Middle Fork Holston River and its tributaries from Edmondson Dam upstream to the route 91 bridge.	IV B	pH shall be 6.0-9.0
5b	Hungry Mother Creek from the dam to its headwaters.	IV B	b
5c	Middle Fork Holston River and its tributaries from Marion's raw water intake to a point 5 miles upstream.	IV A	pH shall be 6.0-9.0 Public Water Supply pH shall be 6.0-9.0
	Trout Waters in Section 5c:		
	Put and Take:		
	Nicks Creek from the Forest Service boundary to headwaters.	V A	pH shall be 6.0-9.0
	Natural:		
	Bear Creek from confluence with Middle Fork Holston River to its headwaters.	VI A	pH shall be 6.0-9.0

HOLSTON RIVER BASIN (cont.)

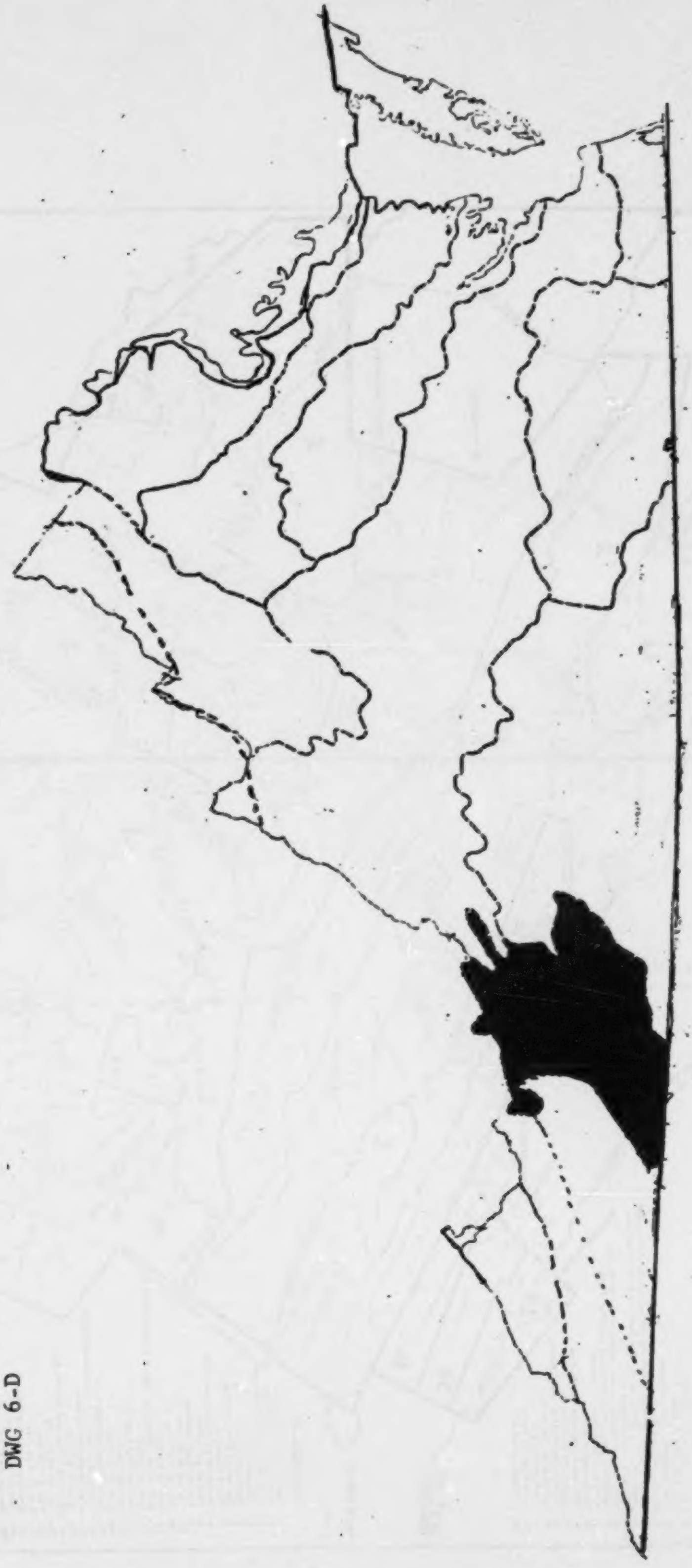
Section	Section Description	Class	Special Standards
6	South Fork Holston River and its tributaries in Virginia.	IV A	pH shall be 6.0-9.0
	Trout Waters in Section 6:		
	Put and Take:	V A	pH shall be 6.0-9.0
	Cressy Creek from Forest Service boundary to its headwaters.		
	Dickey Creek from Forest Service boundary to its headwaters.		
	Rowland Creek from Forest Service boundary to its headwaters.		
	Natural:	VI A	pH shall be 6.0-9.0
	Beaverdam Creek from its confluence with Big Laurel Creek to the Virginia-Tennessee state line.		
	Comers Creek from its confluence with South Fork Holston River to its headwaters.		
	Green Cove Creek from its confluence with Big Laurel Creek to its headwaters.		
	Whitetop Creek from its confluence with Big Laurel Creek to its headwaters.		
	Hurricane Creek from its confluence with Comers Creek to its headwaters.		
	Big Laurel Creek from its confluence with South Fork Holston River to its headwaters.		
	Straight Branch from its confluence with Big Laurel Creek to its headwaters.		
	Valley Creek from its confluence with Big Laurel Creek to headwaters.		

Water Quality Standards Summary

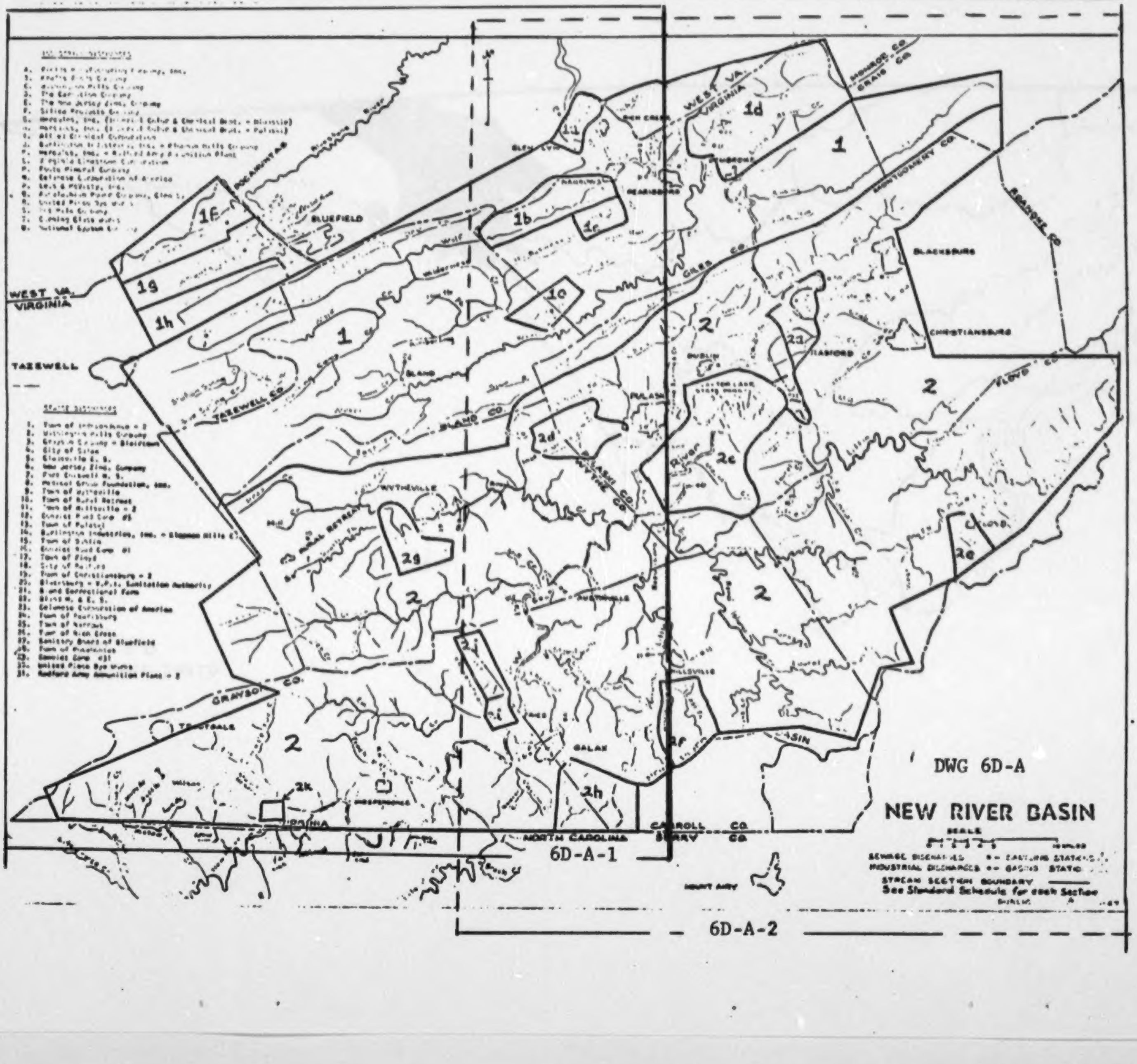
Section 6D

New River Basin

40



New River Basin
DWG 6-D



DWG 6D-A

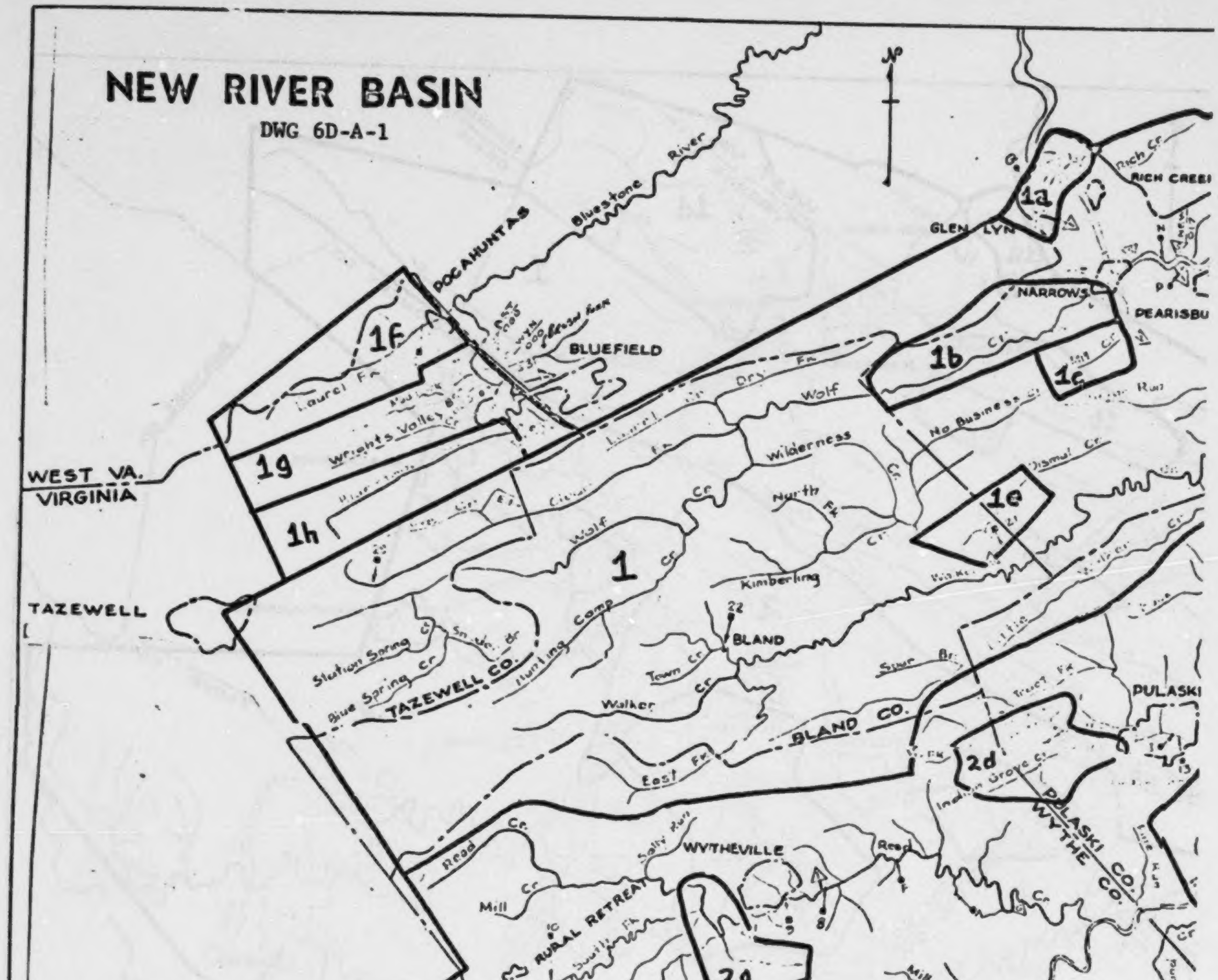
NEW RIVER BASIN

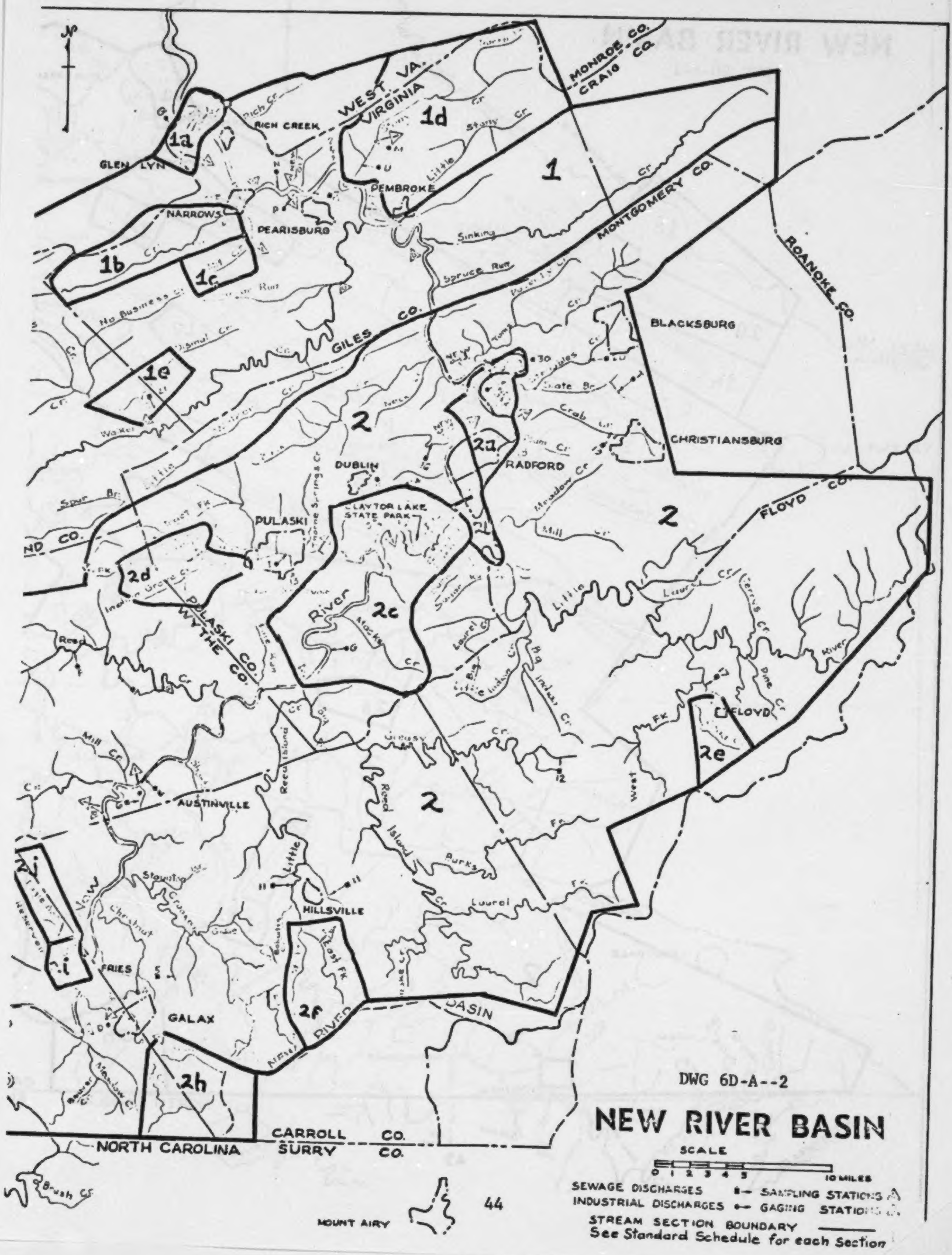
See Standard Schedule for each Section

Reproduced from
best available copy.

NEW RIVER BASIN

DWG 6D-A-1





DWG 6D-A--2

NEW RIVER BASIN

SCALE

0 1 2 3 4 5 10 MILES

SEWAGE DISCHARGES ▪— SAMPLING STATIONS △
INDUSTRIAL DISCHARGES •— GAGING STATIONS △
STREAM SECTION BOUNDARY ———
See Standard Schedule for each Section

NEW RIVER BASIN

Section	Section Description	Class	Special Standards
1	New River and its tributaries, unless otherwise designated, from the Virginia-West Virginia state line to the Montgomery-Giles county line.	IV A	pH shall be 6.0-9.0 c
	Trout Waters in Section 1: Put and Take: Wolf Creek from Rocky Gap to its confluence with Wilderness Creek. Laurel Creek from Rocky Gap to route 613 bridge 1 mile west of the junction of routes 613 and 21.	V A	pH shall be 6.0-9.0
	Natural: Clear Fork Creek from its confluence with Wolf Creek to its headwaters. East Fork Clear Fork Creek from its confluence with Clear Fork Creek to its headwaters. Cove Creek from its confluence with Clear Fork Creek to its headwaters. Wolf Creek from Grapefield to its headwaters. Huntingcamp Creek from its confluence with Wolf Creek to its headwaters. Walker Creek from Bland corporate limits to its headwaters. Little Walker Creek from Pulaski-Bland county line to its headwaters. Spur Branch from its confluence with Little Walker Creek to its headwaters. Dismal Creek from its confluence with Kimberling Creek to its headwaters. No Business Creek from its confluence with Kimberling Creek to its headwaters.	VI A	pH shall be 6.0-9.0
1a	New River and its tributaries from Appalachia Power Company's raw water intake to a point 5 miles upstream.	IV A	pH shall be 6.0-9.0 c Public Water Supply

NEW RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
1b	Wolf Creek from its confluence with Mill Creek upstream to the Giles-Bland county line.	IV B	pH shall be 6.0-9.0 c
1c	Mill Creek from Narrows raw water intake upstream to its headwaters.	IV A	pH shall be 6.0-9.0 c
1d	Stony Creek from its confluence with the New River upstream to its headwaters, and Little Stony Creek from its confluence with the New River to its headwaters.	IV B	Public Water Supply pH shall be 6.0-9.0 c
	Trout Waters in Section 1d: Natural: Stony Creek from its confluence with the New River to its headwaters. North Fork Stony Creek from its confluence with Stony Creek to its headwaters. Little Stony Creek from confluence with the New River to its headwaters.	VI B	pH shall be 6.0-9.0
1e	Kimberling Creek and its tributaries from Bland Correctional Farm's raw water intake to a point 5 miles upstream.	IV A	pH shall be 6.0-9.0 c
1f	Laurel Fork from the Virginia-West Virginia state line to its headwaters.	IV A	Public Water Supply pH shall be 6.0-9.0 c
1g	Bluestone River and its tributaries, unless otherwise designated, from the Virginia-West Virginia state line upstream to their headwaters.	IV B	pH shall be 6.0-9.0 c
1h	Bluestone River from Bluefield's raw water intake upstream to its headwaters.	IV B	pH shall be 6.0-9.0 c
2	New River and its tributaries, unless otherwise designated, from the Montgomery-Giles county line upstream to the Virginia-North Carolina state line.	IV A	Public Water Supply pH shall be 6.0-9.0

NEW RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Trout Waters in Section 2:		
	Put and Take:	V A	pH shall be 6.0-9.0
	Elk Creek from its confluence with Knob Fork Creek to the junction of State routes 611 and 662.		
	Brush Creek from the first bridge on route 617 south of junction of routes 617 and 601 to the Floyd County line		
	West Fork Peak Creek from the Forest Service boundary to its headwaters.		
	Tract Fork from the Forest Service boundary to its headwaters.		
	Poverty Creek from the Forest Service boundary to its headwaters.		
	Tom's Creek to its headwaters.		
	Natural:	VI A	pH shall be 6.0-9.0
	Main Fork Helton Creek from Virginia-North Carolina state line to its headwaters.		
	Cabin Creek from its confluence with Helton Creek to its headwaters.		
	Big Wilson Creek from its confluence with the New River to its headwaters.		
	Fox Creek from junction of creek and route 734 to its headwaters.		
	Middle Fox Creek from its confluence with Fox Creek to its headwaters.		
	Peach Bottom Creek from its confluence with the New River to its headwaters.		
	Crooked Creek from its confluence with the New River to its headwaters.		
	Glade Creek from its confluence with Crooked Creek to its headwaters.		
	East Fork Crooked Creek from its confluence with Crooked Creek to its headwaters.		

NEW RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Burks Fork from the Floyd-Carroll County line to its headwaters. Mira Fork Creek from its confluence with Greasy Creek to its headwaters. White Rock Creek from its confluence with Cripple Creek to its headwaters. Jones Creek from its confluence with Harris Branch to its headwaters. Dry Run from its confluence with Cripple Creek to its headwaters. Cripple Creek from the junction of stream and U.S. Route 21 in Wythe County to its headwaters. Reed Creek from Western Town limits of Wytheville to its headwaters. Francis Mill Creek from its confluence with Cripple Creek to its headwaters. Little River from the junction of stream and route 706 to its headwaters. West Fork Little River from its confluence with Little River to its headwaters. Meadow Creek from its confluence with Little River to its headwaters. Big Reed Island Creek from Route 221 to its headwaters. Killinger Creek from its confluence with Cripple Creek and White Rock Creek to its headwaters.		
2a	New River from Radford Army Amunition Plant's raw water intake (that raw water intake which is farther downstream) to a point 5 miles above Blacksburg-Christriansburg, V.P.I. Water Authority's raw water intake.	IV A	pH shall be 6.0 - 9.0 Public Water Supply
2b	New River from Radford's raw water intake upstream to Claytor Dam and Little River from its confluence with the New River to the mouth of Burks Run.	IV A	pH shall be 6.0 - 9.0 Public Water Supply

NEW RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
2c	New River and its tributaries, except Peak Creek, from Claytor Dam to Big Reed Island Creek.	IV B	pH shall be 6.0-9.0
2d	Peak Creek and its tributaries from Pulaski's raw water intake upstream, including Hogan Branch to its headwaters and Gatewood Reservoir.	IV A	pH shall be 6.0-9.0 b Public Water Supply
2e	Dodd Creek from Floyd's raw water intake upstream to its headwaters.	IV A	pH shall be 6.0-9.0 Public Water Supply
	Trout Water in Section 2e:		
	Natural: Howells Creek from its confluence with West Fork Little River to its headwaters.	VI A	pH shall be 6.0-9.0
2f	Little Reed Island Creek and its tributaries from Hillsville's raw water intake to a point 5 miles upstream, including the entire watershed of East Fork Little Reed Island Creek.	IV A	pH shall be 6.0-9.0 Public Water Supply
	Trout Waters in Section 2f:		
	Natural: Little Reed Island Creek from the junction of stream and state routes 782 and 772 to headwaters, including East and West Forks	VI A	pH shall be 6.0-9.0 Public Water Supply
2g	Reed Creek and its tributaries from Wytheville's raw water intake to 5 miles upstream.	IV A	pH shall be 6.0-9.0 Public Water Supply
	Trout Waters in Section 2g:		
	Natural: Reed Creek from the western town limits of Wytheville to its headwaters.	VI A	pH shall be 6.0-9.0 Public Water Supply
2h	Chestnut Creek from Galax's raw water intake upstream to its headwaters.	IV A	pH shall be 6.0-9.0 Public Water Supply
	Trout Waters in Section 2h:		
	Natural: Coal Creek from its confluence with Chestnut Creek to its headwaters.	VI A	pH shall be 6.0-9.0 Public Water Supply

NEW RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
2i	Fries Reservoir section of the New River.	IV B	pH shall be 6.0-9.0 b
2j	Eagle Bottom Creek from Fries' raw water intake upstream to its headwaters.	IV A	pH shall be 6.0-9.0 Public Water Supply
2k	Stuart Reservoir section of the New River.	IV B	pH shall be 6.0-9.0 b

Water Quality Standards Summary

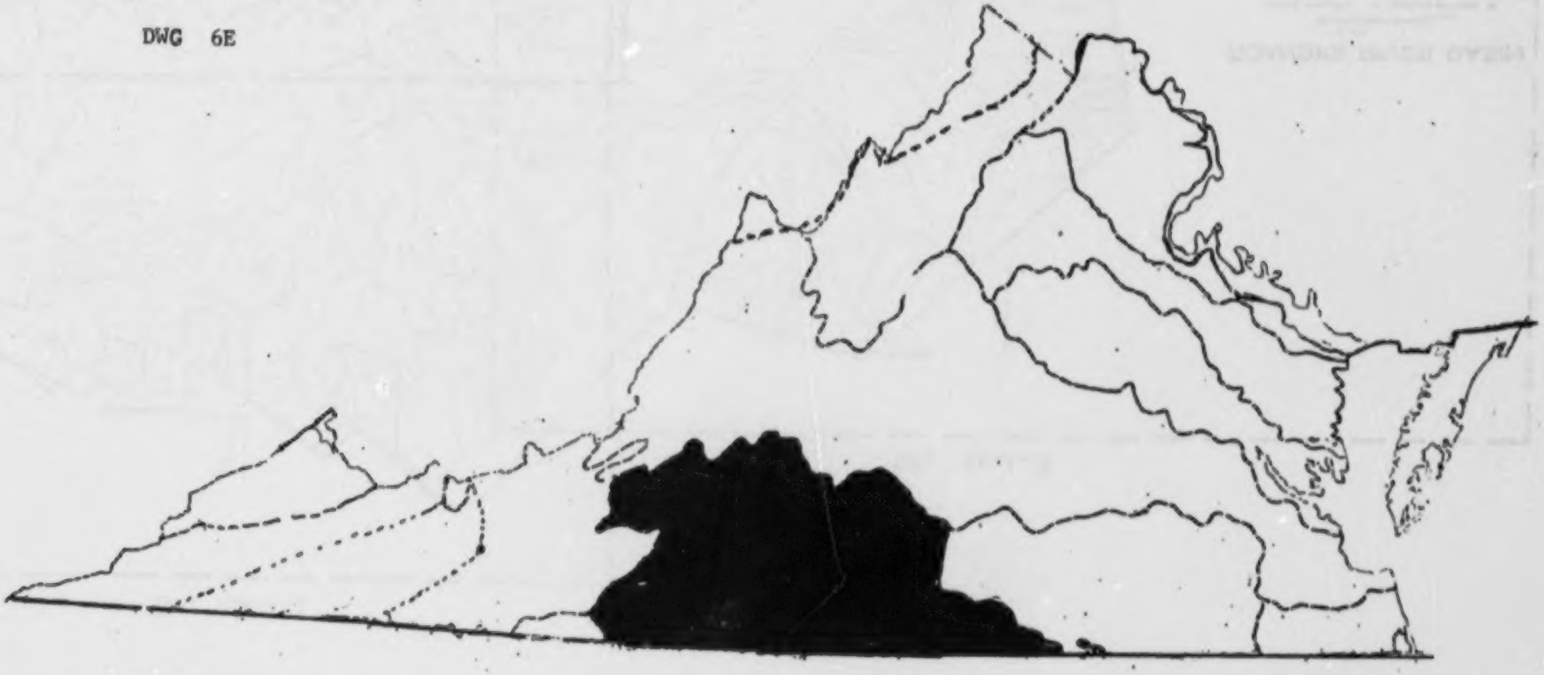
Section 6E

Roanoke River Basin

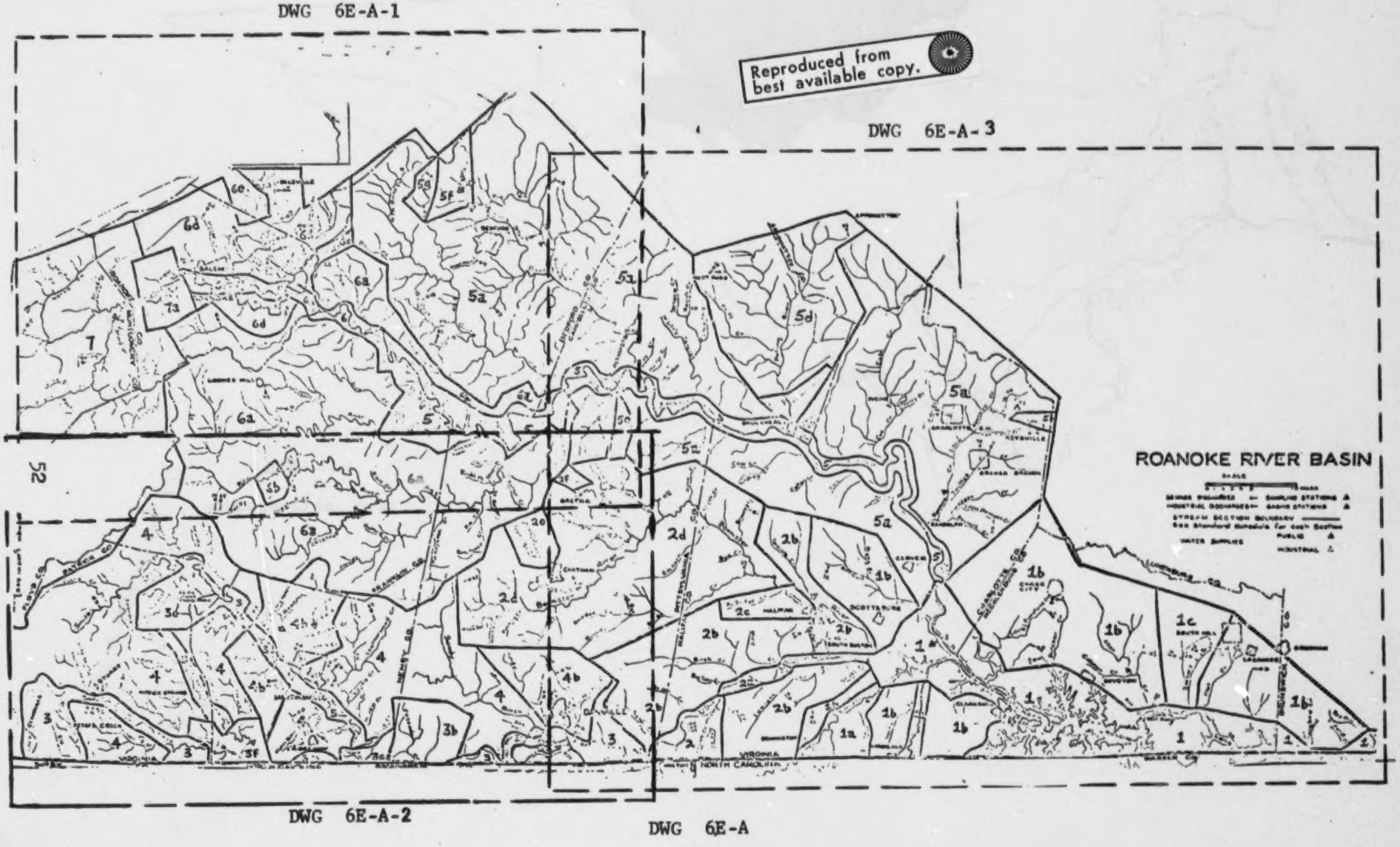
50a

Roanoke River Basin

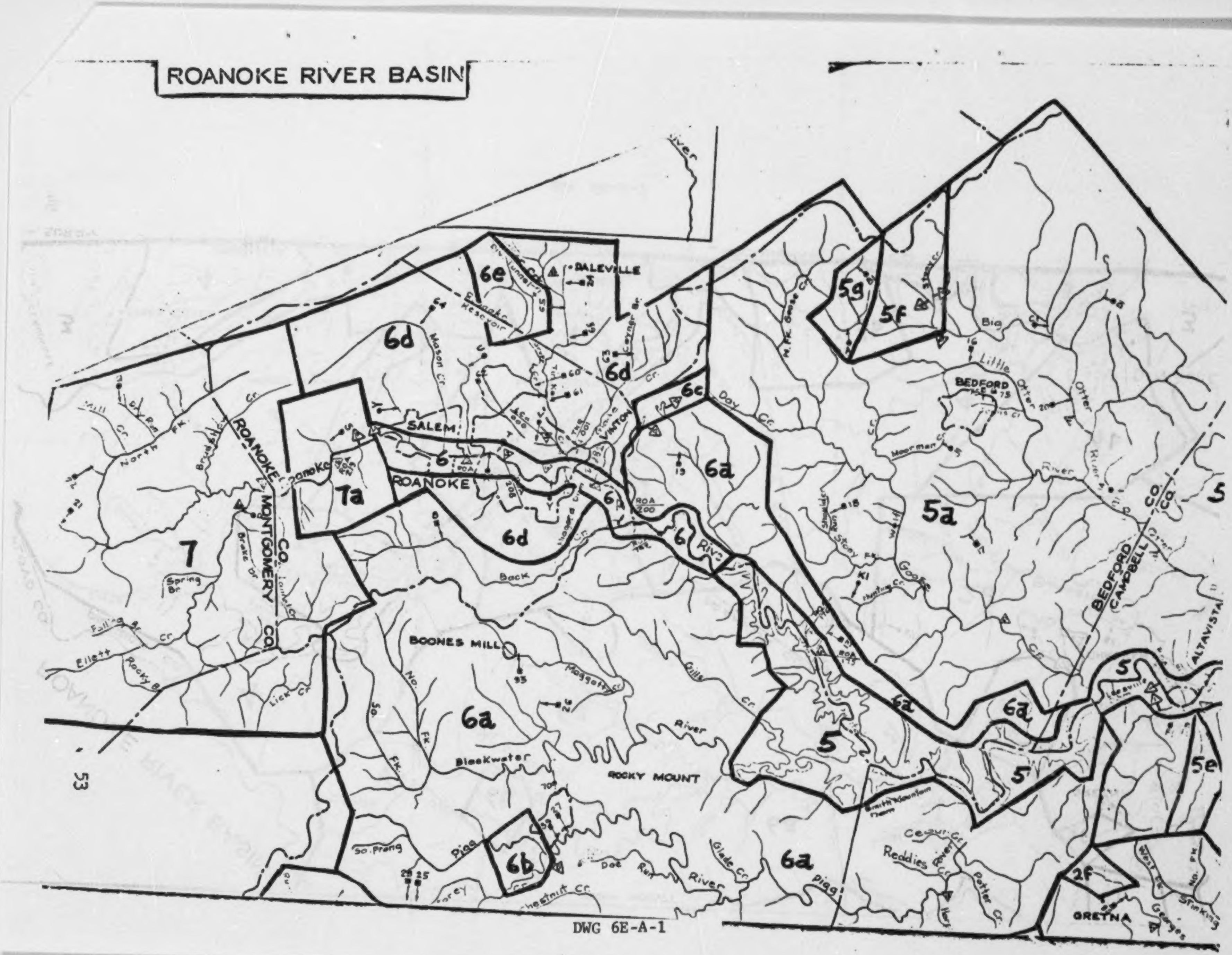
DWG 6E



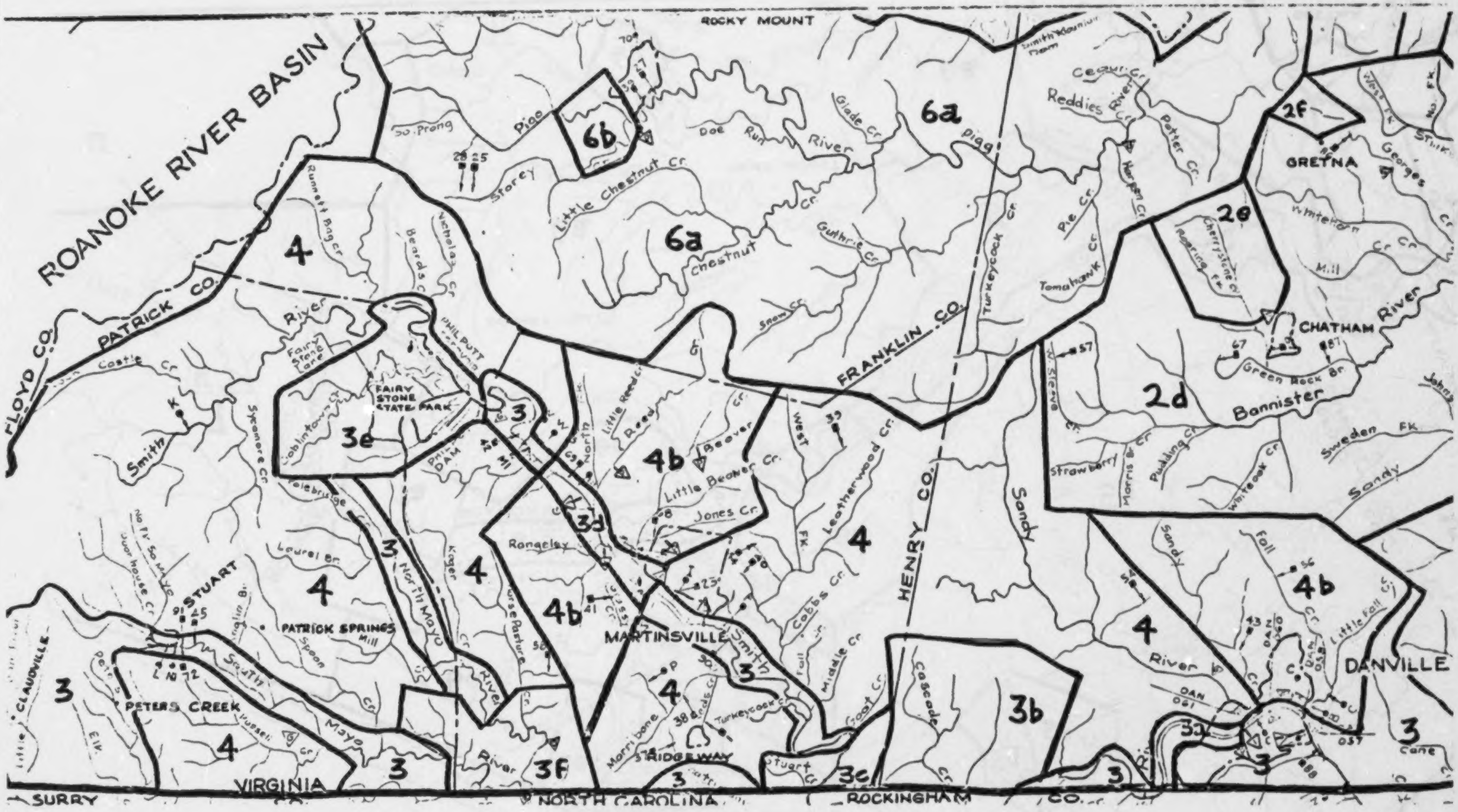
Reproduced from best available copy.



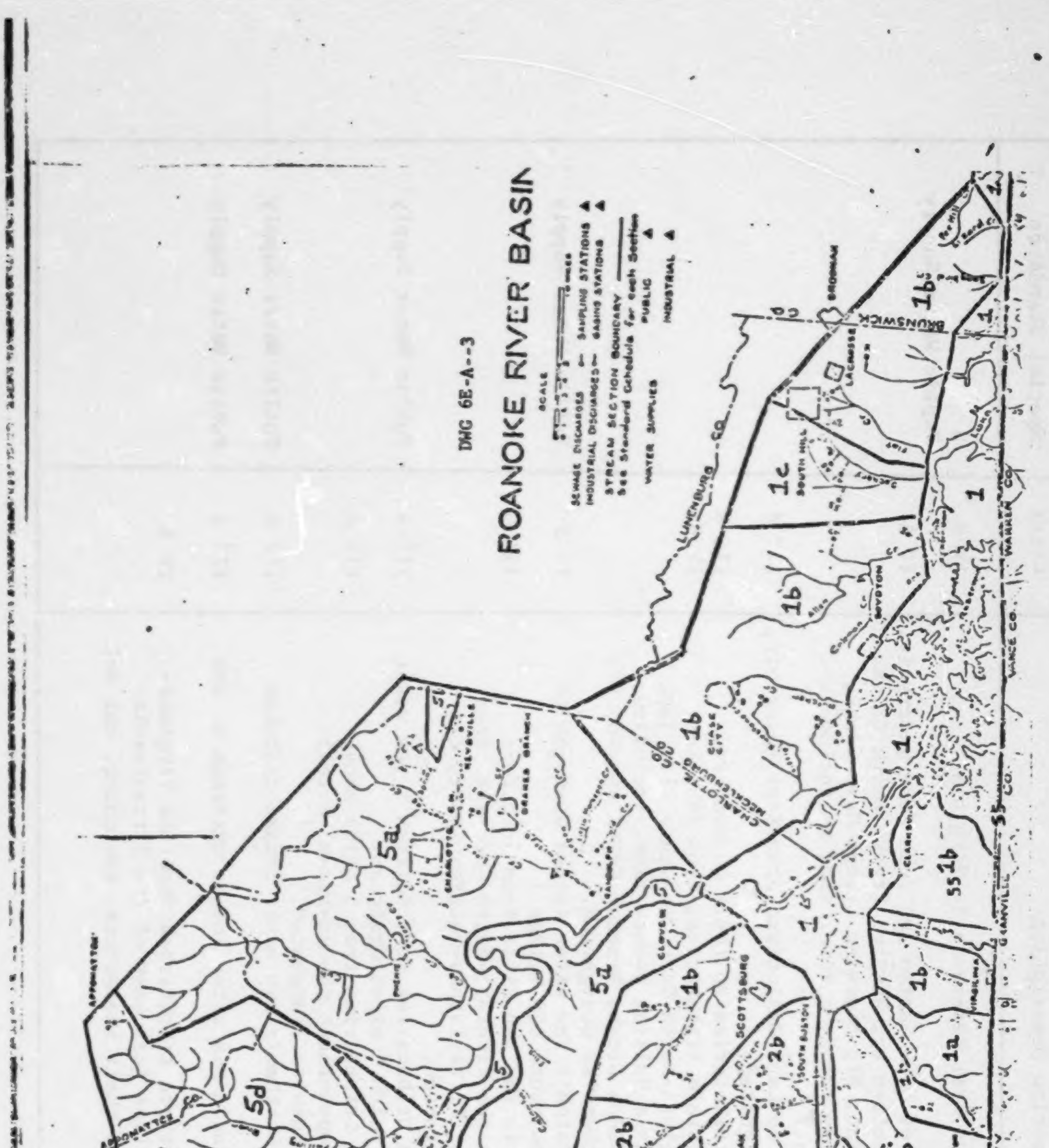
ROANOKE RIVER BASIN



DWG 6E-A-1


ROANOKE RIVER BASIN
ROCKY MOUNT
FLOYD CO.
PATRICK CO.
FRANKLIN CO.
HENRY CO.
ROCKINGHAM CO.
SURRY
VIRGINIA
NORTH CAROLINA
GRETNA
CHATHAM
DANVILLE
MARTINSVILLE
STUART
PATRICK SPRINGS
PETERS CREEK
RIDGEWAY
CLAUDVILLE
FAIRY STONE STATE PARK
PHILPOTT
DAM
Pigg
River
So. Prong
Storey
Little Chestnut Cr.
Chestnut
Doe Run
Glade Cr.
Guthrie Cr.
Snow Cr.
Turkeycock Cr.
Tomahawk Cr.
Pie Cr.
Harpen Cr.
Reddies River
Cedar Cr.
Potter Cr.
Cherrystone Cr.
Roaring Fk.
Whitethorn
Georges
Stinking
Mill
Green Rock Br.
Bannister
River
W. Strawberry
Strawberry
Morris Cr.
Pudding Cr.
Whiteoak Cr.
Sweden Fk.
Sandy
Fall
Little Fall Cr.
DAN
Cane
Cascade Cr.
Goat Cr.
Middle Cr.
Cobbs Cr.
Leatherwood Cr.
West Fk.
Beaver
Little Beaver Cr.
Jones Cr.
Reed
Little Reed Cr.
North
Rangeley
Grassy Cr.
Smith
Marrowbone
Turkeycock Cr.
Stuart Cr.
Horse Pasture
Kager
North Mayo
River
Laurel Br.
Spoon
South Mayo
Russell Cr.
Peters
Elk
Little
Smith
Castle Cr.
Sycamore Cr.
Goblintown Cr.
Fairy Stone Lake
Runnett Bag Cr.
Beards Cr.
Nicholas Cr.
Smith Mountain Dam
4
6a
6a
6b
2f
2e
2d
4b
4
3b
3
3
3e
3
3d
4b
4
4b
4
3
4
3f
3
3c
3
3
3
4
3
4
3

DWG 6E-A-2


DWG 6E-A-3
ROANOKE RIVER BASIN
SCALE
MILES
SEWAGE DISCHARGES
SAMPLING STATIONS
INDUSTRIAL DISCHARGES
GAGING STATIONS
STREAM SECTION BOUNDARY
See Standard Schedule for each Section
WATER SUPPLIES
PUBLIC
INDUSTRIAL
APPOMATTOX
APPOMATTOX CO.
CHARLOTTE CO.
MECKLENBURG CO.
LUNENBURG CO.
BRUNSWICK
HALIFAX CO.
PITTSYLVANIA CO.
VIRGINIA
NORTH CAROLINA
WARREN CO.
VANCE CO.
GRANVILLE CO.
DANVILLE
HALIFAX
SOUTH BOSTON
SCOTTSBURG
CLOVER
CLARKSVILLE
BOYDTON
SOUTH HILL
LACROSSE
BRODNAX
CHASE CITY
BROOKNEAL
CHARLOTTE C.H.
DRAKES BRANCH
KEYSVILLE
5a
5d
5c
2b
2c
2d
1a
1b
1c
1
3

ROANOKE RIVER BASIN

Section	Section Description	Class	Special Standards
1	Lake Gaston and the John Kerr Reservoir in Virginia	IV B	b
1a	Interstate tributaries of Lake Gaston and John Kerr Reservoir, including, but not limited to, Hawtree Creek, Smith Creek, Aarons Run, Wolfpit Run, Big Bluewing Creek, Mayo Creek, Crutchfield Branch, and the Hyco River (not to include the Roanoke or Dan Rivers.)	IV B	Public Water Supply
1b	Intrastate tributaries to Lake Gaston and John Kerr Reservoir, unless otherwise designated.	III B	
1c	Dockery Creek and its tributaries to their headwaters.	III B	e
2	Dan River and its interstate tributaries, from John Kerr Reservoir to the Virginia-North Carolina state line just east of the Pittsylvania-Halifax county line, including, but not limited to, Winns Creek, Brandon Creek and Country Line Creek, unless otherwise designated.	IV B	
2a	Dan River from South Boston's raw water intake upstream to Paces, Virginia (below route 658 bridge.)	IV B	Public Water Supply
2b	Intrastate tributaries to the Dan River from John Kerr Reservoir upstream to the Virginia-North Carolina state line just east of the Pittsylvania-Halifax County line, unless otherwise designated.	III B	
2c	Bannister River and its tributaries from Halifax's raw water impoundment dam to a point 5 miles upstream.	III A	Public Water Supply
2d	Bannister River and its tributaries from 5 miles above Halifax's raw water impoundment dam upstream to their headwaters, unless otherwise designated.	III A	
2e	Cherrystone Creek from Chatham's raw water intake upstream to its headwaters.	III A	Public Water Supply
2f	Georges Creek from Gretna's raw water intake upstream to its headwaters.	III A	Public Water Supply
3	Dan River and its interstate tributaries from the Virginia-North Carolina state line just east of the Pittsylvania-Halifax County line to their headwaters, including, but not	IV A	

ROANOKE RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	limited to, Cane Creek, Coy Creek, Pumpkin Creek, Matrimony Creek, North Mayo River, South Mayo River, Crooked Creek, Elk Creek, Peters Creek, and Little Dan River, unless otherwise designated. Trout Waters in Section 3:		
	Put and Take: Little Dan River from its confluence with Hookers Creek to its headwaters. South Mayo River from its confluence with the North Fork South Mayo River to route 640. Smith River from Philpott dam 5 miles downstream to Koehler (at about route 667). Dan River from Coleman's Mill Pond upstream to route 758 (about 4 miles). Dan River from route 773 upstream to the Pinnacles of Dan (approximately 6 miles).	V A	
	Natural: Dan River from route 758 to its headwaters. Smith River from route 613 to its headwaters. South Mayo River from route 640 to its headwaters.	VI A	
3a	Dan River from the Schoolfield Dam upstream to the Virginia-North Carolina state line.	IV A	Public Water Supply
3b	Cascade Creek and its tributaries.	IV A	Public Water Supply
3c	Smith River from the Virginia-North Carolina state line to, but not including, Goat Creek.	IV A	Public Water Supply
3d	Smith River from DuPont's raw water intake to 5 miles upstream from Fieldale's raw water intake.	IV A	Public Water Supply
3e	Philpot Reservoir, Fairystone Lake and their tributaries.	IV B	Public Water Supply b
3f	North Mayo River and South Mayo River and their tributaries from the Virginia-North Carolina state line to a point 5 miles upstream.	IV A	Public Water Supply

ROANOKE RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
4	Intrastate tributaries to the Dan River from the Virginia-North Carolina state line just east of the Pittsylvania-Halifax county line to their headwaters, unless otherwise designated.	III A	
	Trout Waters in Section 4:		
	Put and Take: Runnett Bag Creek from route 792 downstream to route 40 at Endicott. Round Meadow Creek from its confluence with the Dan River upstream to Route 634 (approximately 3 miles). Rock Castle Creek from its confluence with the Smith River upstream to route 40. Ivy Creek from Coleman's Mill Pond upstream to route 58 (approximately 2.5 miles). Poorhouse Creek from its confluence with North Fork South Mayo River upstream to route 817. North Fork South Mayo River from its confluence with the South Mayo River upstream to route 640 (approximately 3.25 miles).	V A	
	Natural: Rock Castle Creek from route 40 to its headwaters. Poorhouse Creek from route 817 to its headwaters. North Fork South Mayo River from route 640 to its headwaters. Mayberry Creek from its confluence with Round Meadow Creek upstream to its headwaters. Maple Swamp Branch from its confluence with Round Meadow Creek upstream to its headwaters. Round Meadow Creek from route 634 upstream to its headwaters.	VI A	

ROANOKE RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Tuggle Creek from its confluence with the Dan River upstream to its headwaters. Cherry Creek from its confluence with Ivy Creek upstream to its headwaters. Fall Creek from its confluence with the Dan River upstream to its headwaters.		
4a	Intrastate tributaries of the Dan River from Brantley Stream station to just below Schoolfield Dam.	III B	
4b	Intrastate tributaries to the Dan River from DuPont's raw water intake to a point 5 miles upstream from Fieldale's raw water intake.	III A	Public Water Supply
5	Roanoke River from the headwaters of the John Kerr Reservoir to Leesville Dam and including Leesville Reservoir and Smith Mountain Lake.	IV B	Public Water Supply b pH shall be 6.5-9.0
5a	Tributaries to the Roanoke River from the headwaters of the John Kerr Reservoir to Leesville Dam, unless otherwise designated.	III B	Public Water Supply pH shall be 6.5-9.0
5b	Spring Creek from Keysville's raw water intake upstream to its headwaters.	III A	Public Water Supply pH shall be 6.5-9.0
5c	Falling River and its tributaries from Brookneal's raw water intake to a point 5 miles upstream and Phelps Creek to its headwaters.	III A	Public Water Supply pH shall be 6.5-9.0
5d	Falling River from 5 miles above Brookneal's raw water intake to its headwaters.	III A	pH shall be 6.5-9.0
5e	Reed Creek from Altavista's raw water intake upstream to its headwaters.	III A	Public Water Supply pH shall be 6.5-9.0
5f	Big Otter River and its tributaries from Bedford's raw water intake to a point 5 miles upstream, and Stony Creek and Little Stony Creek upstream to their headwaters.	III A	Public Water Supply pH shall be 6.5-9.0
5g	Big Otter River and its tributaries from 5 miles upstream from Bedford's raw water intake upstream to their headwaters.	III A	pH shall be 6.5-9.0

ROANOKE RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
6	Roanoke River from the headwaters of Smith Mountain Lake upstream to Salem's #1 raw water intake.	IV B	pH shall be 6.5-9.0
	Trout Waters in Section 6: Put and Take: Roanoke River from its junction with routes 11 and 419 to Salem's #1 raw water intake.	V B	pH shall be 6.5-9.0
6a	Tributaries of the Roanoke River from Leesville Dam to Niagra Reservoir, unless otherwise designated.	III A	pH shall be 6.5-9.0
	Trout Waters in Section 6a: Put and Take: Maggodee Creek from Boone's Mill upstream to Route 862 (approximately 3.8 miles). Green Creek from its confluence with the Blackwater River upstream to its headwaters.	V A	pH shall be 6.5-9.0
6b	Pigg River from Rocky Mount's raw water intake to a point 5 miles upstream.	III A	Public Water Supply pH shall be 6.5-9.0
6c	Falling Creek Reservoir and Beaver Dam Reservoir.	III A	Public Water Supply pH shall be 6.5-9.0
6d	Tributaries of the Roanoke River from Niagra Reservoir to Salem's #1 raw water intake	IV B	pH shall be 6.5-9.0
	Trout Waters in Section 6d: Put and Take: Glade Creek from its junction with route 633 to the Bedford county line. Tinker Creek from its confluence with Route 115 north to routes 11 and 220 (1.5 miles).	V B	pH shall be 6.5-9.0
6e	Carvin Cove Reservoir and its tributaries to a point 5 miles upstream.	IV A	Public Water Supply pH shall be 6.5-9.0
7	Roanoke River and its tributaries, unless otherwise designated, from Salem's #1 raw water intake to their headwaters.	IV A	pH shall be 6.5-9.0
7a	Roanoke River and its tributaries from Salem's #1 raw water intake to a point 5 miles upstream from Salem's #2 raw water intake.	IV A	Public Water Supply pH shall be 6.5-9.0

ROANOKE RIVER BASIN (cont.)

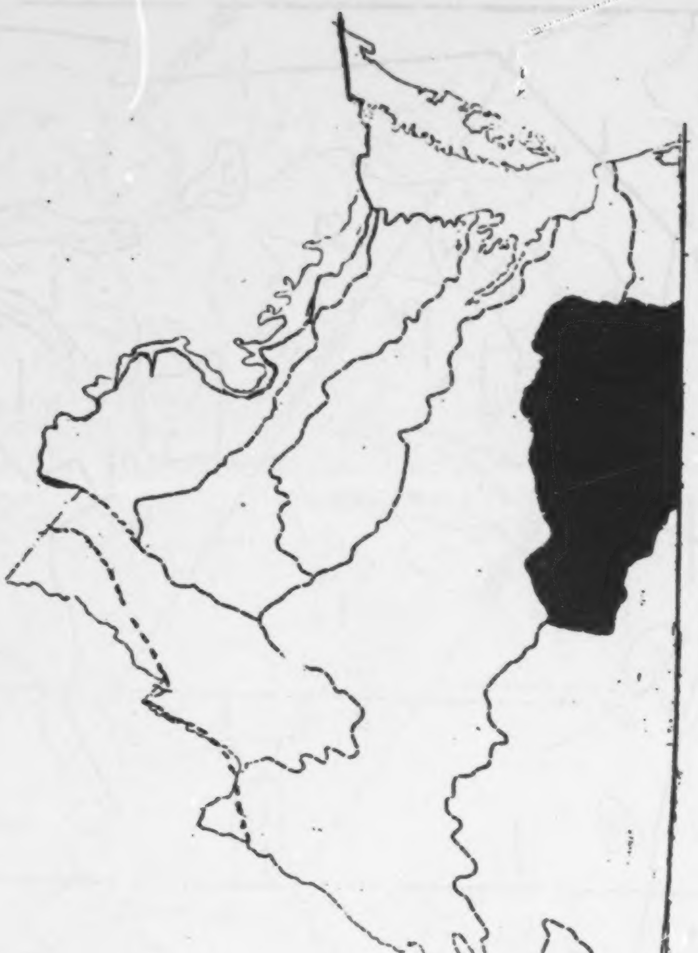
Section	Section Description	Class	Special Standards
	Trout Waters in Section 7a:		
	Put and Take:		
	Roanoke River from Salem's #1 raw water intake to the Montgomery county line.	V A	Public Water Supply pH shall be 6.5-9.0
	Natural:		
	South Fork Roanoke River from its confluence with North Fork Roanoke River to its headwaters.	VI A	Public Water Supply pH shall be 6.5-9.0
	Bottom Creek from its confluence with South Fork Roanoke River to its headwaters.		

Water Quality Standards Summary

Section 6F

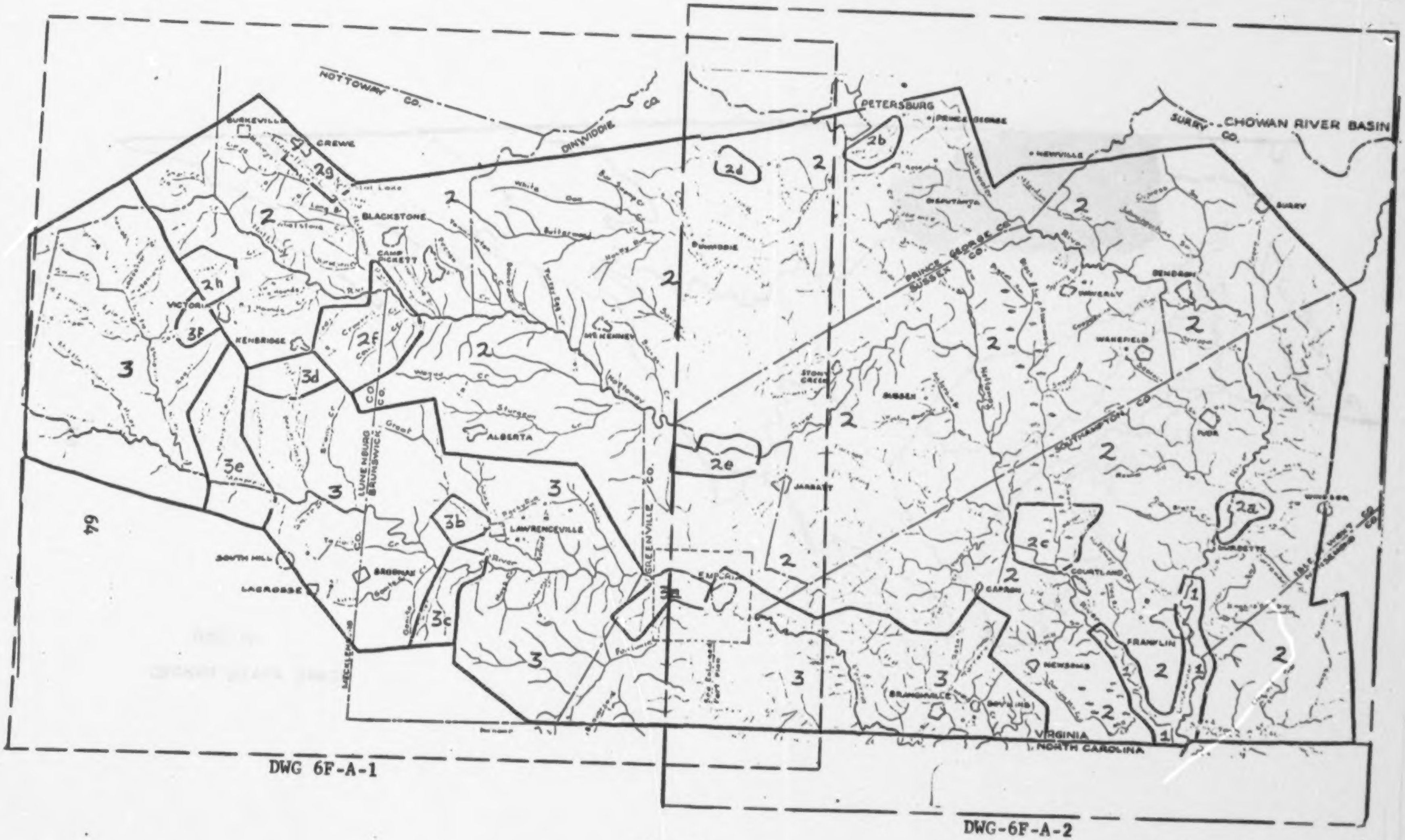
Chowan River Basin

62

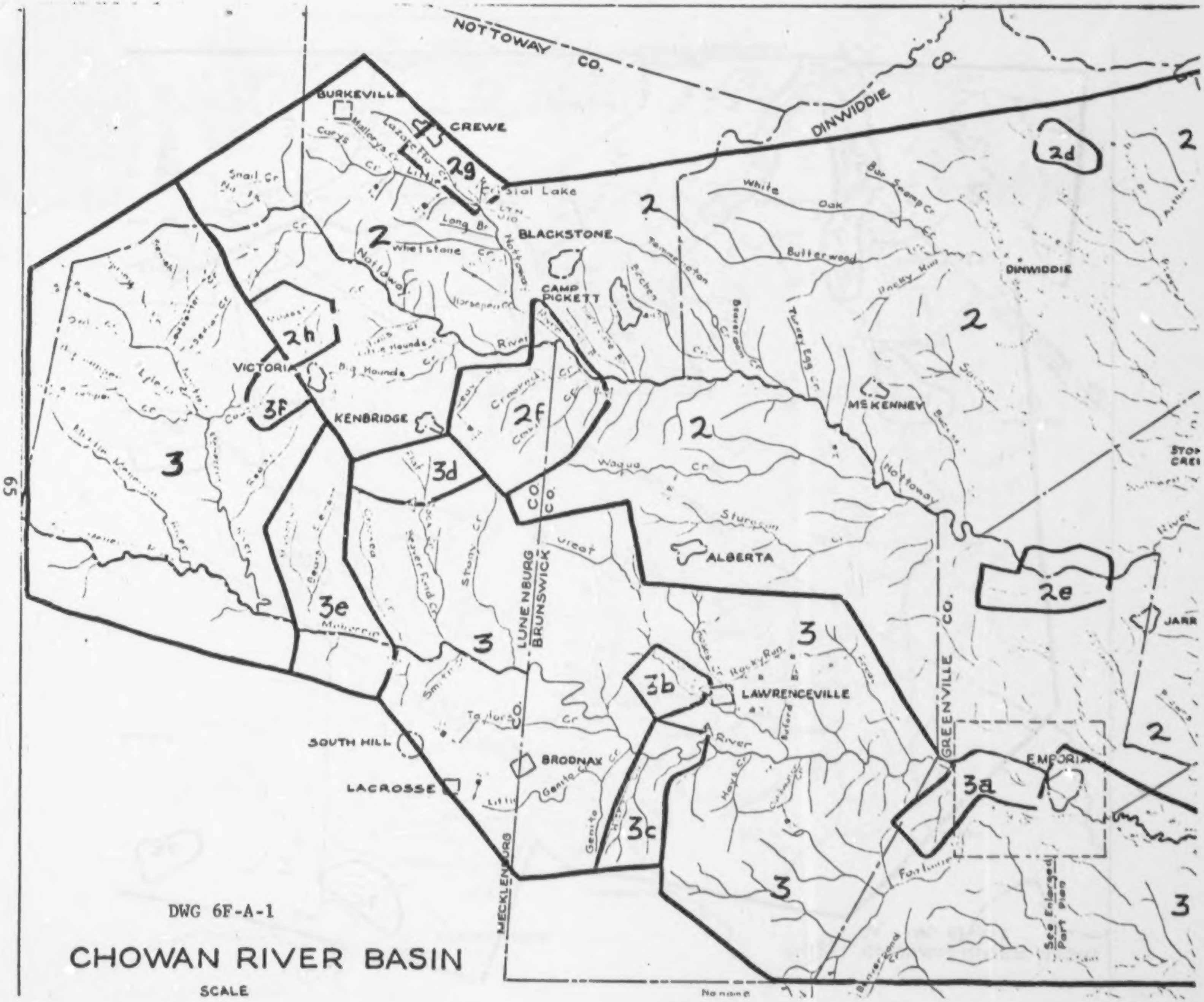


Chowan River Basin

DWG 6F


CHOWAN RIVER BASIN
NOTTOWAY CO.
DINWIDDIE CO.
SURRY CO.
PRINCE GEORGE CO.
SUSSEX CO.
SOUTHAMPTON CO.
GREENVILLE CO.
LUNENBURG
BRUNSWICK
MECKLENBURG
PETERSBURG
PRINCE GEORGE
NEWVILLE
DISPUTANTA
SURRY
DENDRON
WAVERLY
WAKEFIELD
IVOR
WINDSOR
ZUNI
COURTLAND
FRANKLIN
NEWSOMS
BOYKINS
BRANCHVILLE
CAPRON
JARRATT
STONY CREEK
SUSSEX
DINWIDDIE
McKENNEY
ALBERTA
BLACKSTONE
CAMP PICKETT
CREWE
BURKEVILLE
VICTORIA
KENBRIDGE
LAWRENCEVILLE
BRODNAX
SOUTH HILL
LACROSSE
EMPORIA
VIRGINIA
NORTH CAROLINA
Nottoway River
Blackwater River
Meherrin River
2
2a
2b
2c
2d
2e
2f
2g
2h
3
3a
3b
3c
3d
3e
3f
1
DWG 6F-A-1
DWG-6F-A-2

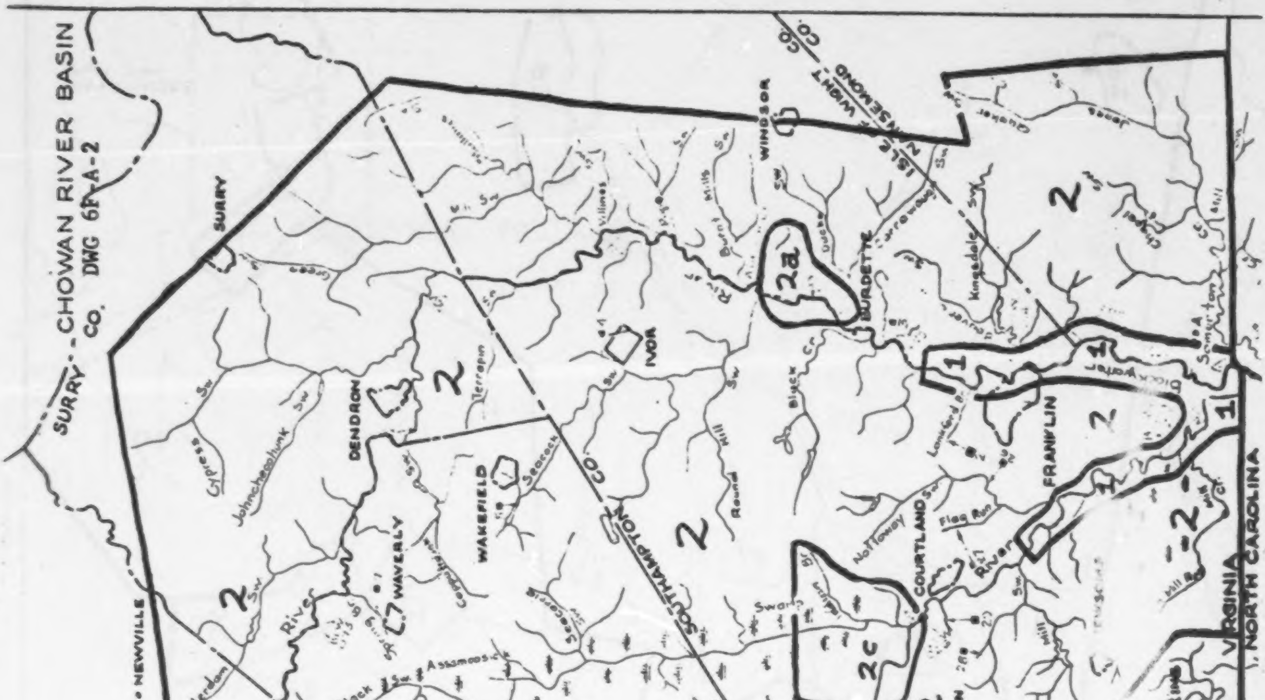
DWG 6F-A



DWG 6F-A-1

CHOWAN RIVER BASIN

SCALE


CHOWAN RIVER BASIN
Co. DWG 6F-A-2
SURRY
SURRY CO.
NEWVILLE
PETERSBURG
PRINCE GEORGE
DISPUTANTA
PRINCE GEORGE CO.
SUSSEX CO.
DENDRON
WAVERLY
WAKEFIELD
IVOR
WINDSOR
ISLE OF WIGHT CO.
NANSEMOND CO.
BURDETTE
SOUTHAMPTON CO.
COURTLAND
FRANKLIN
CAPRON
BOYKINS
BRANCHVILLE
VIRGINIA
NORTH CAROLINA
SUSSEX
STONY CREEK
JARRATT
DINWIDDIE
EMPORIA
See Enlarged Part Plan
Blackwater
River
Nottoway
Meherrin
Assamoosick
2
2a
2b
2c
2d
2e
1
3

CHOWAN RIVER BASIN

Section	Section Description	Class	Special Standards
1	The Blackwater River and its tidal tributaries from the Virginia-North Carolina state line to the end of tidal waters at approximately state route 611 at river mile BLW - 20.97; Nottoway River and its tidal tributaries from the Virginia-North Carolina state line to the end of tidal waters at approximately state route 674.	II A	
2	The Blackwater and Nottoway Rivers from the end of tidal waters to their headwaters and their free-flowing tributaries in Virginia, unless otherwise designated.	III A	
2a	Blackwater River and its tributaries from Norfolk's auxiliary raw water intake near Burdette, Virginia, to a point 5 miles above the raw water intake, to include Corrowaugh Swamp to a point 5 miles above the raw water intake.	III A	Public Water Supply
2b	Hanzlins Pond Branch from a point one mile below route 460 to its headwaters.	III B	
2c	Nottoway River and its tributaries from Norfolk's auxiliary raw water intake near Courtland, Virginia, to a point 5 miles upstream.	III A	Public Water Supply
2d	Hatcher Run from the impoundment dam on Lake Jordan to state route 631.	III B	
2e	Nottoway River from Johns Manville's raw water intake near Jarratt, Virginia, to a point 5 miles above the intake.	III A	Public Water Supply
2f	Nottoway River and its tributaries from Camp Pickett's raw water intake to a point 5 miles above the raw water intake.	III A	Public Water Supply
2g	Lazaretto Creek and its tributaries from Crewe's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
2h	Modest Creek and its tributaries from Victoria's raw water intake to their headwaters.	III A	Public Water Supply
3	The Meherrin River and its tributaries in Virginia from the Virginia-North Carolina state line to its headwaters.	III A	
3a	Meherrin River and its tributaries from Emporia's water supply dam to a point 5 miles upstream.	III A	Public Water Supply

CHOWAN RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
3b	Great Creek from Lawrenceville's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
3c	Meherrin River from Lawrenceville's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
3d	Flat Rock Creek from Kenbridge's raw water intake upstream to its headwaters.	III A	Public Water Supply
3e	Meherrin River and its tributaries from South Hill's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
3f	Couches Creek from a point 1.6 miles downstream from the Industrial Development Authority discharge to its headwaters.	III A	f

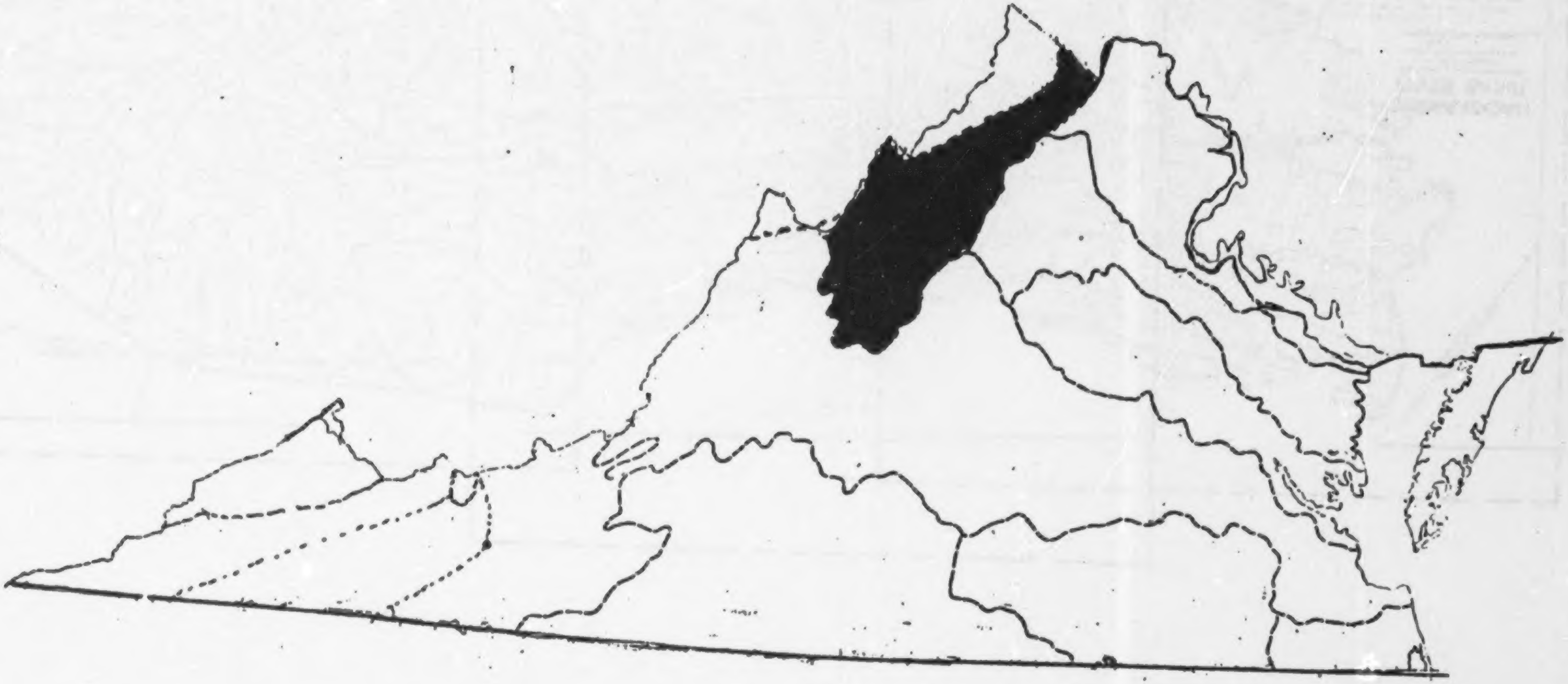
Water Quality Standards Summary

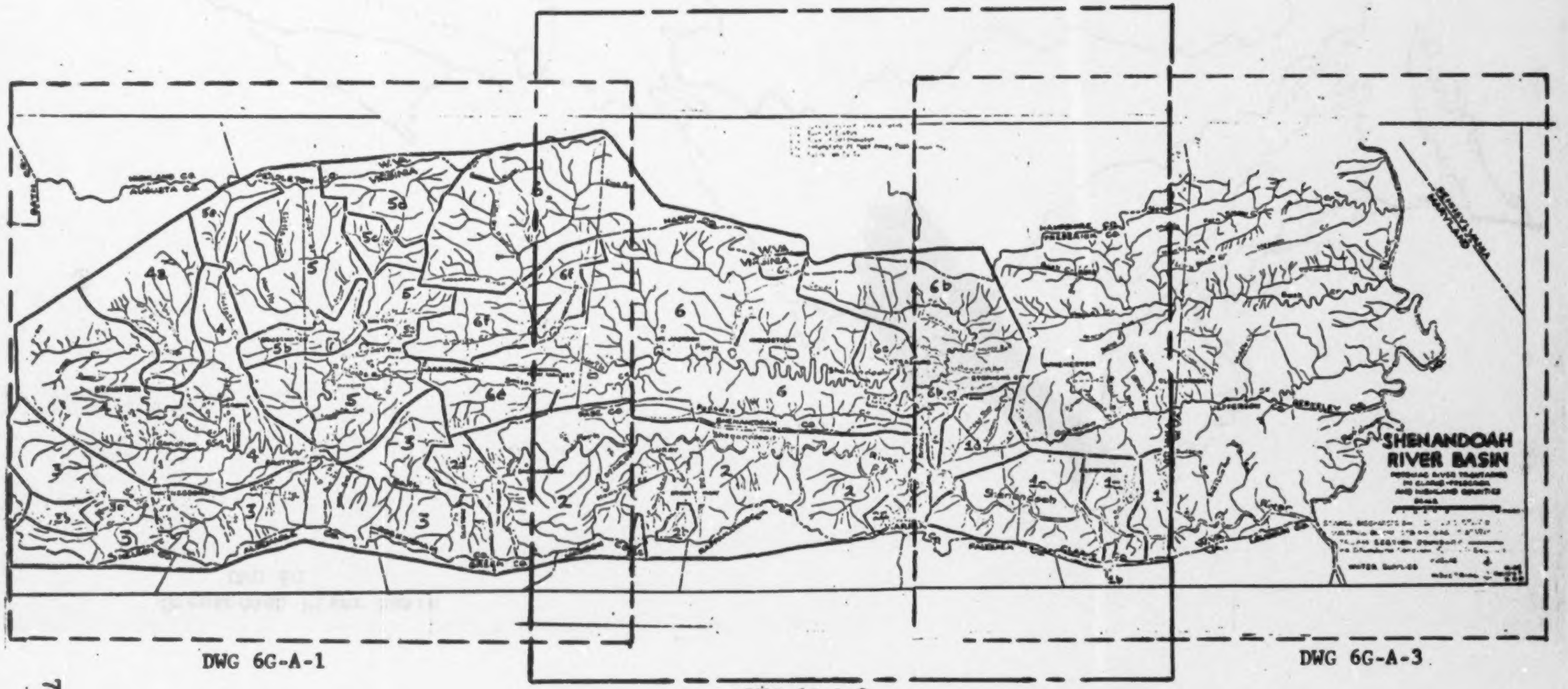
Section 6G

Shenandoah River Basin

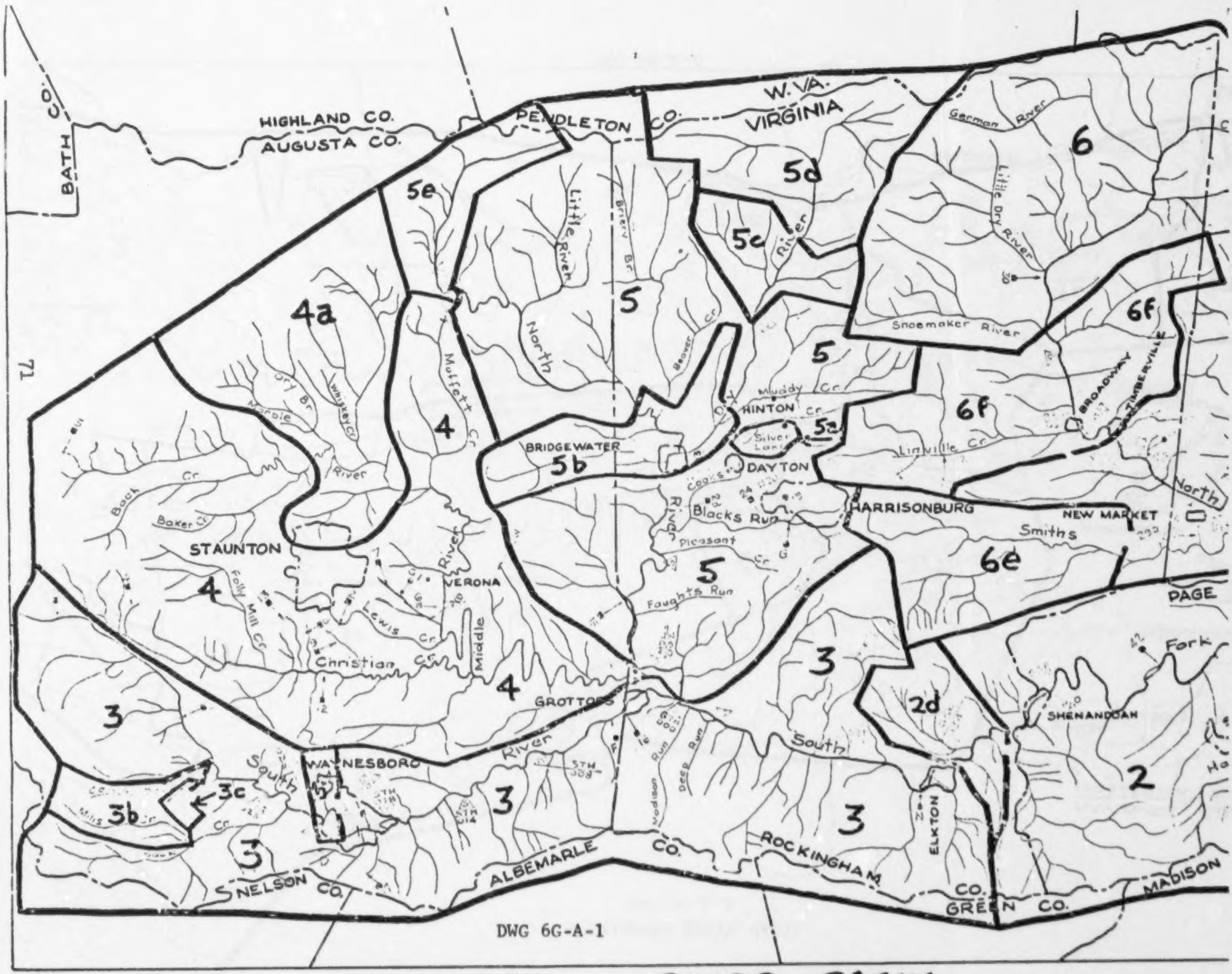
68a

Shenandoah River Basin
DWG 6G




SHENANDOAH
RIVER BASIN
WATER SUPPLIES
HIGHLAND CO.
AUGUSTA CO.
W.VA.
VIRGINIA
HARDY CO.
BERKELEY CO.
Shenandoah
1
1a
1b
1c
2
2a
3
4
4a
5
5a
5b
5c
6
6b
6e
6f
DWG 6G-A-1
DWG 6G-A-2
DWG 6G-A-3

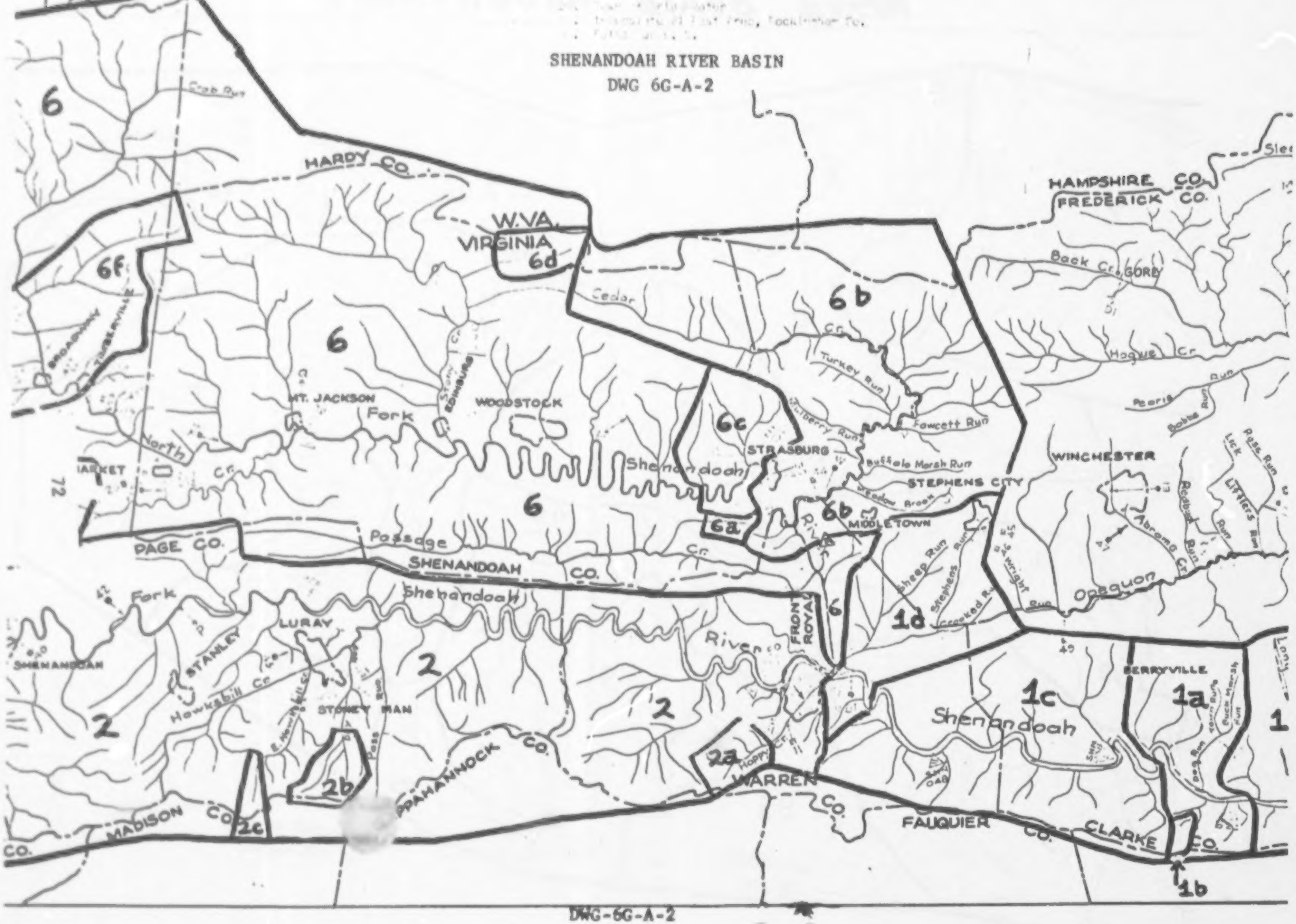
DWG 6G-A



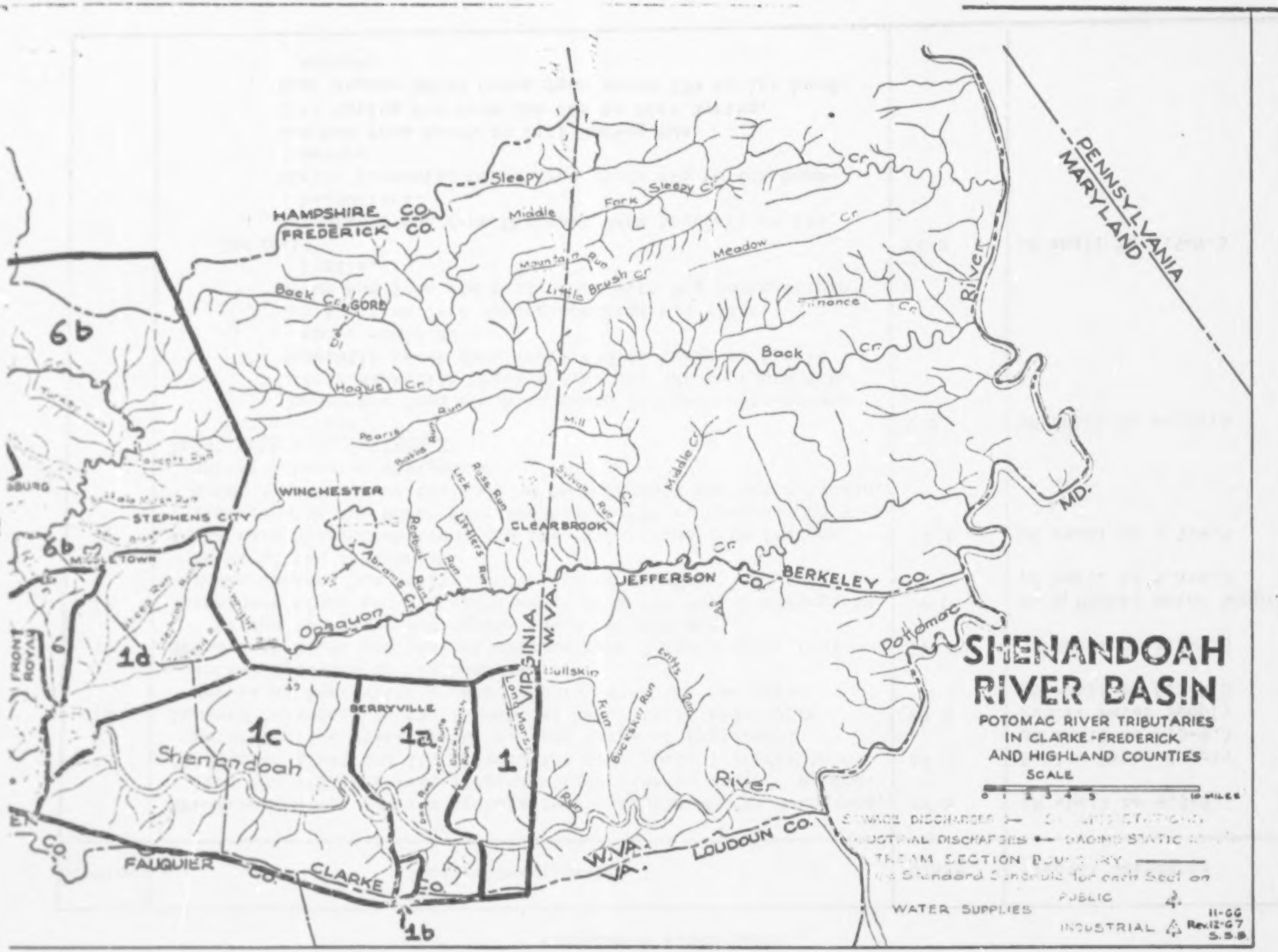
SHENANDOAH RIVER BASIN

SHENANDOAH RIVER BASIN

DWG 6G-A-2



DWG-6G-A-2


SHENANDOAH RIVER BASIN
POTOMAC RIVER TRIBUTARIES IN CLARKE-FREDERICK AND HIGHLAND COUNTIES
SCALE
0 1 2 3 4 5 10 MILES
SEWAGE DISCHARGES
INDUSTRIAL DISCHARGES
GAGING STATIONS
STREAM SECTION BOUNDARY
Standard Schedule for each Section
WATER SUPPLIES
PUBLIC
INDUSTRIAL
11-66
Rev.12-67
S.S.B.
PENNSYLVANIA
MARYLAND
MD.
Potomac River
HAMPSHIRE CO.
FREDERICK CO.
JEFFERSON CO.
BERKELEY CO.
LOUDOUN CO.
FAUQUIER CO.
CLARKE CO.
VIRGINIA
W.VA.
VA.
Sleepy
Middle Fork Sleepy Cr
Meadow Cr
Mountain Run
Little Brush Cr
Timonce Cr
Back Cr
GORE
Hogue Cr
Pearis Run
Mill Cr
Middle Cr
Sylvan Run
Ross Run
Lick Run
Littlers Run
Redbud Run
Abrams Cr
Opequon Cr
WINCHESTER
CLEARBROOK
STEPHENS CITY
MIDDLETOWN
FRONT ROYAL
BERRYVILLE
Bullskin Run
Buckskin Run
Evitts Run
Long Marsh Run
Shenandoah River
1
1a
1b
1c
1d
6
6b

DWG 6G-A-3
73

SHENANDOAH RIVER BASIN

Section	Section Description	Class	Special Standards
1	Shenandoah River and its tributaries in Clarke County, Virginia, from the Virginia-West Virginia state line to route 7 bridge.	IV B	pH shall be 6.5-9.5
1a	Shenandoah River and its tributaries from route 7 bridge to a point 7 miles upstream--U. S. Army Corps of Engineers.	IV A	Public Water Supply pH shall be 6.5-9.5
1b	Unnamed tributary to the Shenandoah River (east side) which serves as Berryville's water supply, from the raw water intake upstream to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
1c	Shenandoah River and its tributaries from 7 miles above route 7 bridge to Northern Virginia Power Company Dam.	IV A	pH shall be 6.5-9.5
1d	Shenandoah River and its tributaries from the Northern Virginia Power Company Dam to the confluence of the North and South Forks of the Shenandoah.	IV B	m, b, Public Water Supply pH shall be 6.5-9.5
2	South Fork Shenandoah River and its tributaries from its confluence with the North Fork Shenandoah River, upstream to a point 5 miles above the Town of Shenandoah's raw water intake, unless otherwise designated.	IV B	pH shall be 6.5-9.5
	Trout Waters in Section 2:		
	Put and Take:		
	Gooney Run from mouth to route 632 above Browntown.	V B	pH shall be 6.5-9.5
	Little Hawksbill Creek from route 628 to route 626.		
	Hawksbill Creek from route 675 in Luray to 1 mile above route 631.		
	Cub Run from Pitt Spring upstream 6.5 miles.		
	Brown Run from its confluence with Big Run upstream 1 mile.		
	Natural:		
	Jeremiah's Run from National Park boundary to its headwaters.	VI B	pH shall be 6.5-9.5
	Little Hawksbill Creek from route 626 to its headwaters.		
	Cub Run from mouth to Pitt Spring Run.		
	Pitt Spring Run from Cub Run to Pitt Spring.		
	East Branch Naked Creek from route 759 to its headwaters.		

SHENANDOAH RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Fultz Run from the Park boundary to its headwaters.		
	Pass Run from route 611 to its headwaters.		
2a	Happy Creek from Front Royal's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
2b	Dry Run and its tributaries from Luray's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
2c	East Hawksbill Creek and its tributaries from Ida's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
2d	South Fork Shenandoah River from the Town of Shenandoah's raw water intake to a point 5 miles upstream.	IV B	Public Water Supply pH shall be 6.5-9.5
3	South Fork Shenandoah River and its tributaries from 5 miles above the Town of Shenandoah's raw water intake to its confluence with the North and South Rivers, and the South River and its tributaries from its confluence with the South Fork Shenandoah River to their headwaters, unless otherwise designated.	IV A	pH shall be 6.5-9.5
	Trout Waters in Section 3: Natural: Johns Run from its confluence with the South River to its headwaters.	VI A	pH shall be 6.5-9.5
3a	South River from the dam above Waynesboro (all waters of the impoundment.)	IV B	b pH shall be 6.5-9.5
3b	Coles Run and Mills Creek from South River Sanitary District's raw water intake to their headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
	Trout Waters in Section 3b: Natural: Kennedy Run from its confluence with Coles Run to its headwaters.	VI A	pH shall be 6.5-9.5 Public Water Supply
3c	Stuarts Draft Water Company's (R. A. Blacka) raw water intake on a tributary of Coles Run, approximately ½ mile south of Stuarts Draft and just off route 610, to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
4	Middle River and its tributaries from the confluence with the North River upstream to its headwaters, unless otherwise designated.	IV A	pH shall be 6.5-9.5

SHENANDOAH RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
4a	Middle River and its tributaries from Staunton's raw water intake at Gardner Spring to a point 5 miles upstream	IV A	Public Water Supply pH shall be 6.5 - 9.5
5	North River from its confluence with the South River upstream to its headwaters, unless otherwise designated.	IV A	pH shall be 6.5 - 9.5
	Trout Waters in Section 5: Put and Take: Briery Branch from Routes 257 and 613 to headwaters--6 miles. Dry River from its junction with Routes 42 and 259 to Rawley Springs.	V A	pH shall be 6.5 - 9.5
	Natural: Little River from confluence with Route 718 to its headwaters. Skidmore Fork from Route 718 to its headwaters. Black Run from its confluence with Dry River to its headwaters. Hone Quarry from its confluence with Briery Branch to its headwaters.	VI A	pH shall be 6.5-9.5
5a	Silver Lake	IV A	b, Public Water Supply pH shall be 6.5 - 9.5
5b	North River and its tributaries from Harrisonburg's raw water intake at Bridgewater to a point 5 miles above Bridgewater's intake at Bridgewater to a point 5 miles above Bridgewater's raw water intake to include Dry River and Muddy Creek to a point 5 miles above Bridgewater's raw water intake.	IV A	Public Water Supply pH shall be 6.5 - 9.5
5c	Dry River from Harrisonburg's raw water intake to a point 5 miles upstream and Rocky Run to its headwaters.	IV A	Public Water Supply pH shall be 6.5 - 9.5
	Trout Waters in Section 5c: Natural: Dry River from Harrisonburg's raw water intake to a point 5 miles upstream.	VI A	pH shall be 6.5 - 9.5
5d	Dry River from 5 miles above Harrisonburg's raw water intake to its headwaters.	IV A	pH shall be 6.5- 9.5
	Trout Waters in Section 5d: Natural: Dry River from 5 miles above Harrisonburg's raw water intake to its headwaters.	VI A	pH shall be 6.5 - 9.5

SHENANDOAH RIVER BASIN (cont.)

Section	Section Description	Class	Special Standard
	Big Laurel Run from its confluence with Dry River to its headwaters.		
	Skidmore Fork from its confluence with Dry River to its headwaters.		
5e	North River from Staunton Dam to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
	Trout Waters in Section 5e:		
	Natural:		
	North River above City of Staunton's water drain	VI A	pH shall be 6.5-9.5
6	North Fork Shenandoah River from its confluence with the Shenandoah River to its headwaters, unless otherwise designated.	IV A	pH shall be 6.5-9.5
	Trout Waters in Section 6:		
	Natural:		
	German River from its junction with route 820 to its headwaters - 9.5 miles.	VI A	pH shall be 6.5-9.5
	Shoemaker River from route 612 to its junction with route 818 - 7.9 miles.		
	Little Passage Creek - mouth to Strasburg Reservoir Dam.		
	Peters Mill Run from mouth to its headwaters.		
	Laurel Run from mouth at Big Stony Creek to its headwaters.		
	Little Stony Creek mouth to Woodstock's raw water intake.		
	Slate Lick Run from its confluence with the Shoemaker River to its headwaters.		
	Long Run from its confluence with the Shoemaker River to its headwaters.		
	Put and Take:		
	Passage Creek from U. S. Forest Service line 4 miles upstream to Pitt Spring.	V A	pH shall be 6.5-9.5
	Mountain Run from mouth at Passage Creek to its headwaters.		

SHENANDOAH RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Big Stony Creek from route 685 above Edinburg upstream to Bayse.		
	Mill Creek from Mount Jackson to Route 720 - 3.5 miles.		
6a	Little Passage Creek from the Strasburg Reservoir dam upstream to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
	Trout Waters in Section 6a:		
	Put and Take:		
	Little Passage Creek from Strasburg Reservoir Dam to headwaters.	V A	Public Water Supply pH shall be 6.5-9.5
6b	North Fork Shenandoah River and its tributaries from the Winchester raw water intake to a point 5 miles upstream (to include Cedar Creek and its tributaries to their headwaters.)	IV A	Public Water Supply pH shall be 6.5-9.5
	Trout Waters in Section 6b:		
	Put and Take:		
	Cedar Creek from route 55 to U. S. Forest Service Boundary - 7.0 miles.	V A	Public Water Supply pH shall be 6.5-9.5
	Natural:		
	Paddy Run from mouth to headwaters.	VI A	Public Water Supply pH shall be 6.5-9.5
	Cedar Creek from Forest Service Boundary to headwaters.		
6c	North Fork Shenandoah River and its tributaries from Strasburg's raw water intake to its confluence with Deep Hollow Run.	IV A	Public Water Supply pH shall be 6.5-9.5
6d	Little Stony Creek and its tributaries from Woodstock's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5
	Trout Waters in Section 6d:		
	Natural:		
	Little Stony Creek from Woodstock's raw water intake to headwaters.	VI A	Public Water Supply pH shall be 6.5-9.5
6e	Smith Creek from New Market's raw water intake to its headwaters.	IV A	Public Water Supply pH shall be 6.5-9.5

SHENANDOAH RIVER BASIN (cont.)

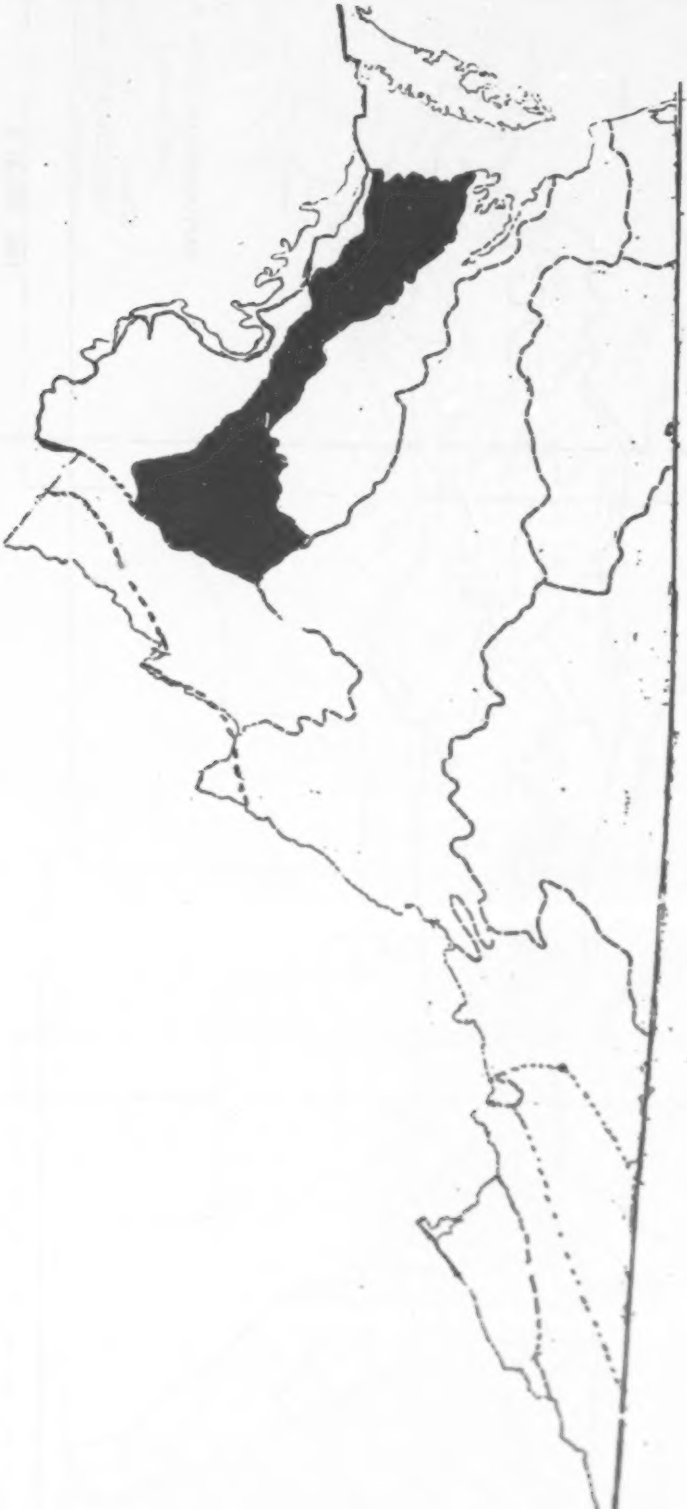
Section	Section Description	Class	Special Standards
6f	North Fork Shenandoah River and its tributaries from the Timberville Food Process Dam to the confluence with the Shoemaker River.	IV A	Public Water Supply pH shall be 6.5-9.5

Water Quality Standards Summary

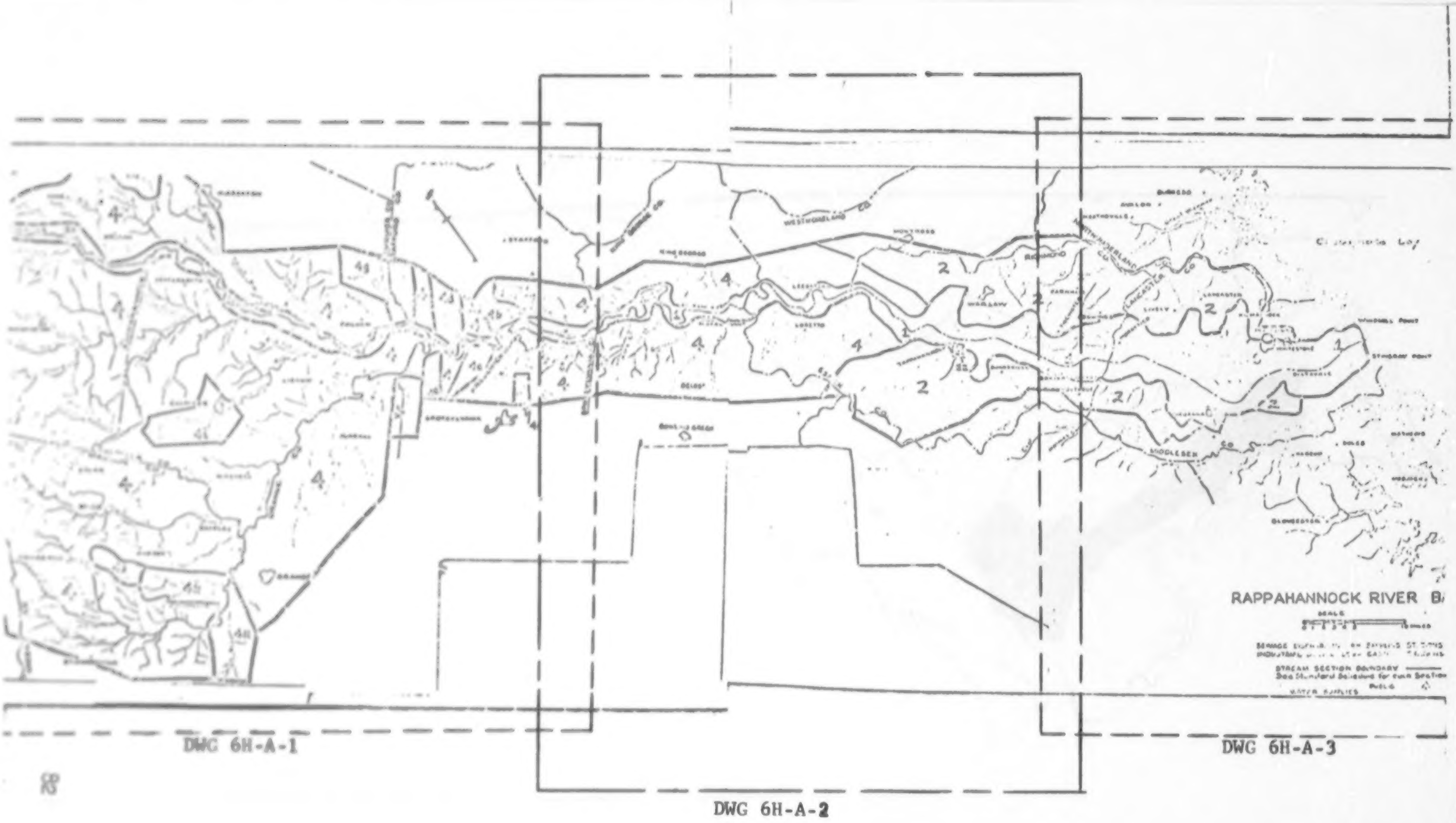
Section 6H

Rappahannock River Basin

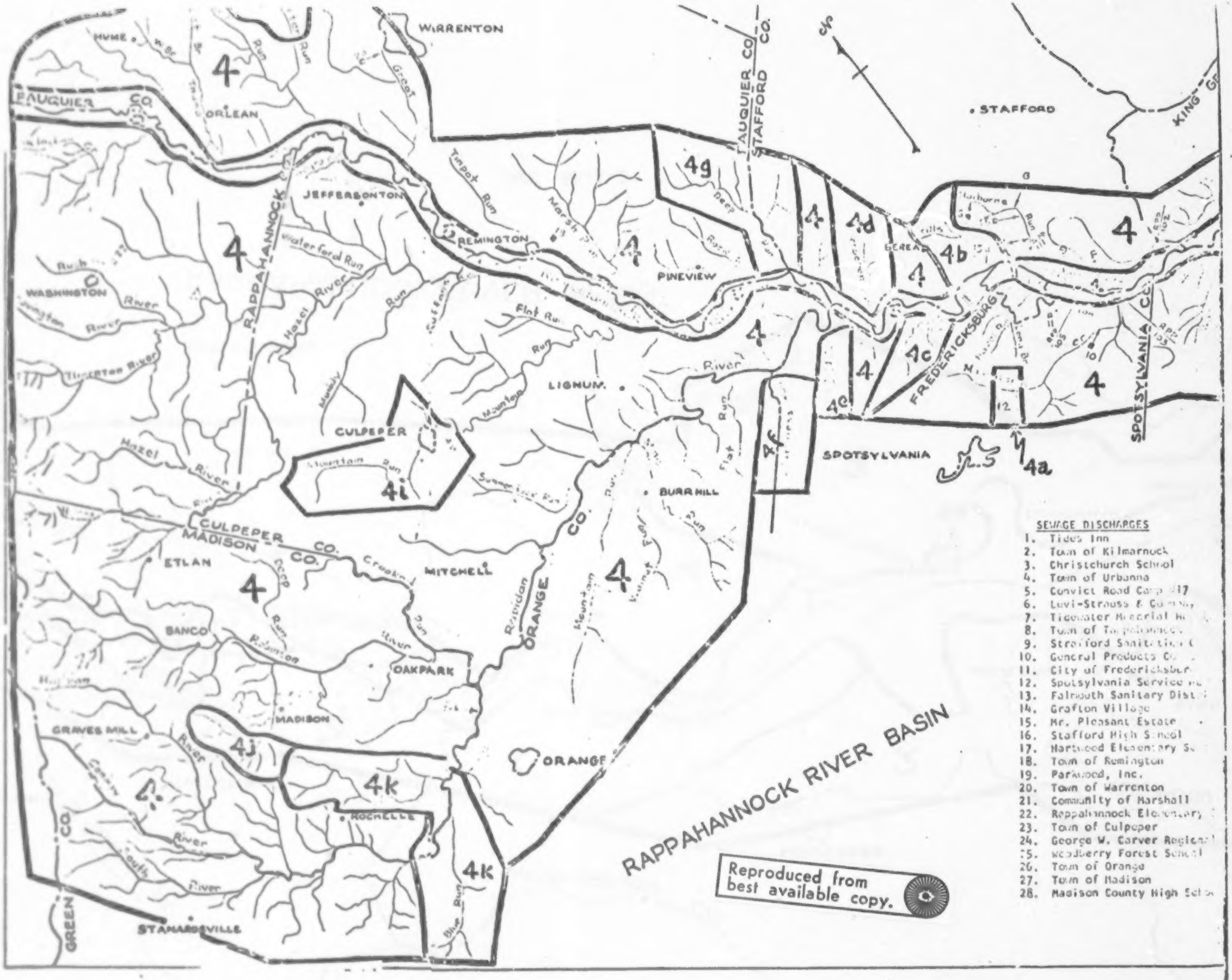
80



Rappahannock River Basin
DWG 6H

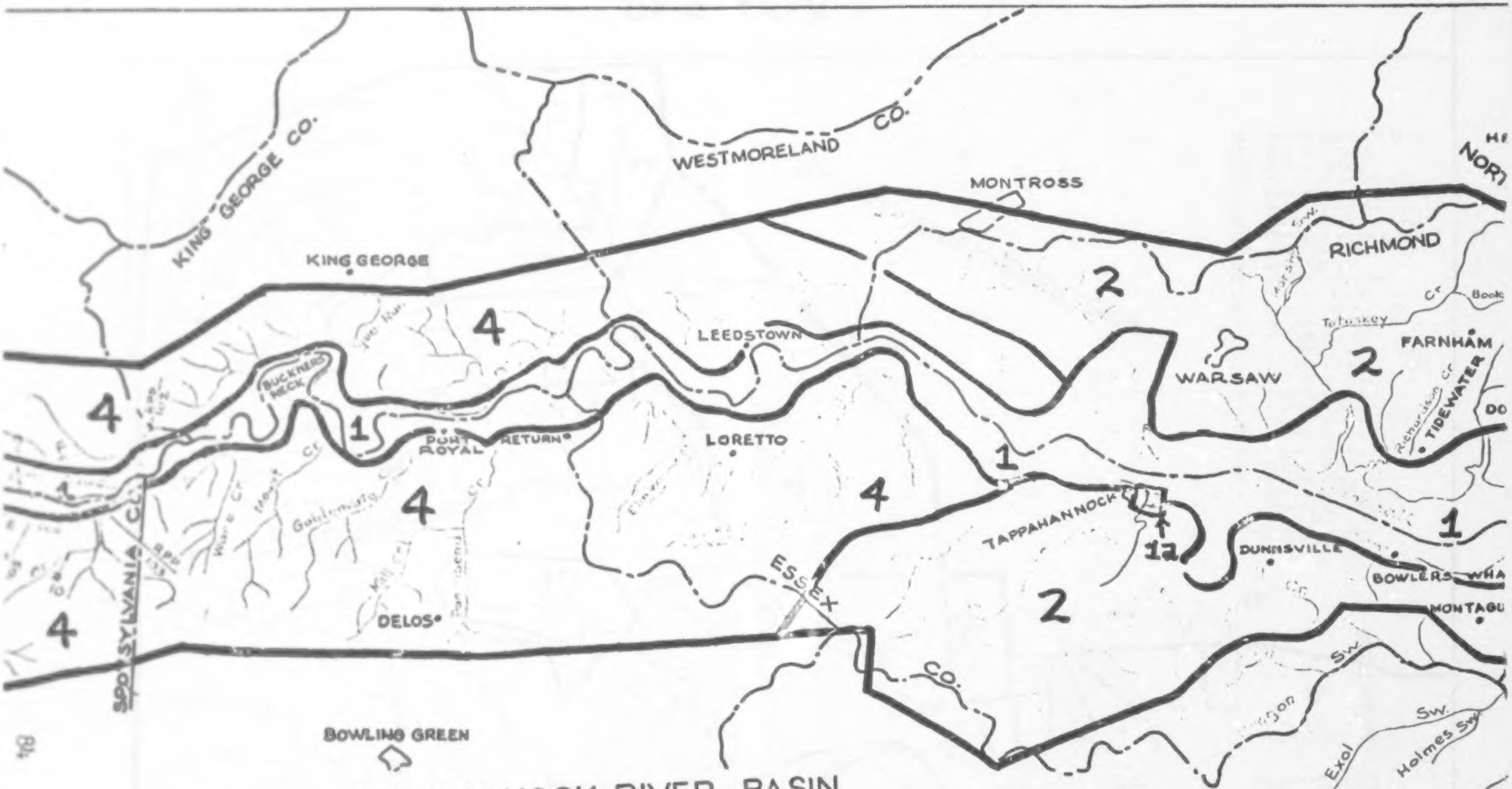

RAPPAHANNOCK RIVER B
SCALE
STREAM SECTION BOUNDARY
PUBLIC
WATER SUPPLIES
4
2
1
DWG 6H-A-1
DWG 6H-A-2
DWG 6H-A-3

DWG 6H-A



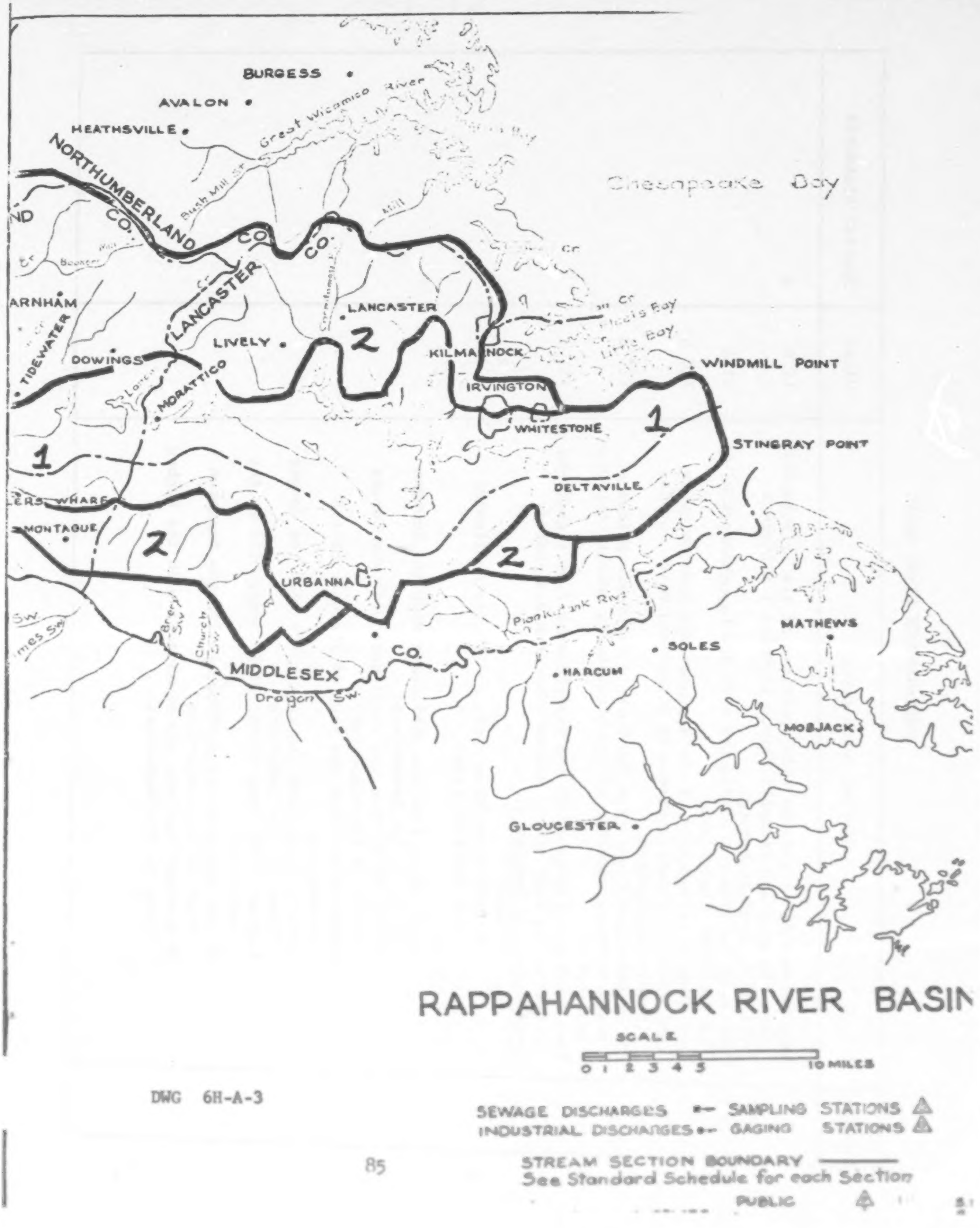
Reproduced from best available copy.

DWG-6H-A-1



RAPPAHANNOCK RIVER BASIN

DWG 6H-A-2



RAPPAHANNOCK RIVER BASIN

DWG 6H-A-3

RAPPAHANNOCK RIVER BASIN

Section	Section Description	Class	Special Standards
1	Rappahannock River and the tidal portions of its tributaries from Stingray and Windmill Points to Route 1 Alternate Bridge at Fredericksburg.	II B	a
1a	Hoskins Creek from the confluence with the Rappahannock River to its tidal headwaters.	II A	
2	Free flowing tributaries of the Rappahannock from Stingray and Windmill Points upstream to Blandfield Point, unless otherwise designated.	III B	
3	The Rappahannock River from the Route 1 Alternate Bridge at Fredericksburg upstream to its headwaters, unless otherwise designated.	III B	
4	Free flowing tributaries of the Rappahannock from Blandfield Point to the headwaters, unless otherwise designated.	III A	
	Trout Waters in Section 4:		
	Put and Take:		
	Robinson River from route 649 to its confluence with the Rose River.	V A	
	Natural:		
	South River from its confluence with the Rapidan River to its headwaters.	VI A	
	Devils Ditch from its confluence with the Conway River to its headwaters.		
	Conway River from the Town of Fletcher to its headwaters.		
	Pocosin Creek from its confluence with the Conway River to its headwaters.		
	Rapidan River from Graves Mill (route 615) to its headwaters.		
	Wilson Run from its confluence with the Staunton River to its headwaters.		
	Brokenback Run from its confluence with the Hughes River to its headwaters.		

RAPPAHANNOCK RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
	Rose River from its confluence with the Robinson River to its headwaters.		
	Cedar Run from its confluence with the Robinson River to its headwaters.		
	White Oak Canyon Run from its confluence with the Robinson River to its headwaters.		
	Hughes River from route 231 to its headwaters.		
	Hogcamp Branch from its confluence with the Rose River to its headwaters.		
	North Fork Thornton River from its confluence with Thornton River to its headwaters.		
	Piney Branch from its confluence with Thornton River to its headwaters.		
	Staunton River from its confluence with Rapidan River to its headwaters.		
	Rush River from route 628 to its headwaters.		
	Robinson River from its confluence with the Rose River to its headwaters.		
	Garth Run from its confluence with the Rapidan River to its headwaters.		
4a	Massaponax Creek from the impoundment dam to be constructed by Mrs. E. Smith to the headwaters of the impoundment.	III B	
4b	The Rappahannock River and its tributaries, to include the VEPCO Canal, from Fredericksburg's raw water intake to a point 5 miles upstream.	III B	Public Water Supply
4c	Motts Run and its tributaries.	III B	
4d	Horsepen Run and its tributaries.	III B	
4e	Hunting Run and its tributaries.	III B	
4f	Wilderness Run and its tributaries.	III B	
4g	Deep Run and its tributaries.	III B	
4h	Carters Run from State Route 738 to its headwaters.	III B	Public Water Supply
4i	Mountain Run from Culpeper's raw water intake to its headwaters.	III A	Public Water Supply

RAPPAHANNOCK RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
4j	White Oak Run from the Town of Madison's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
4k	Rapidan River from Orange's raw water intake upstream 5 miles.	III A	Public Water Supply

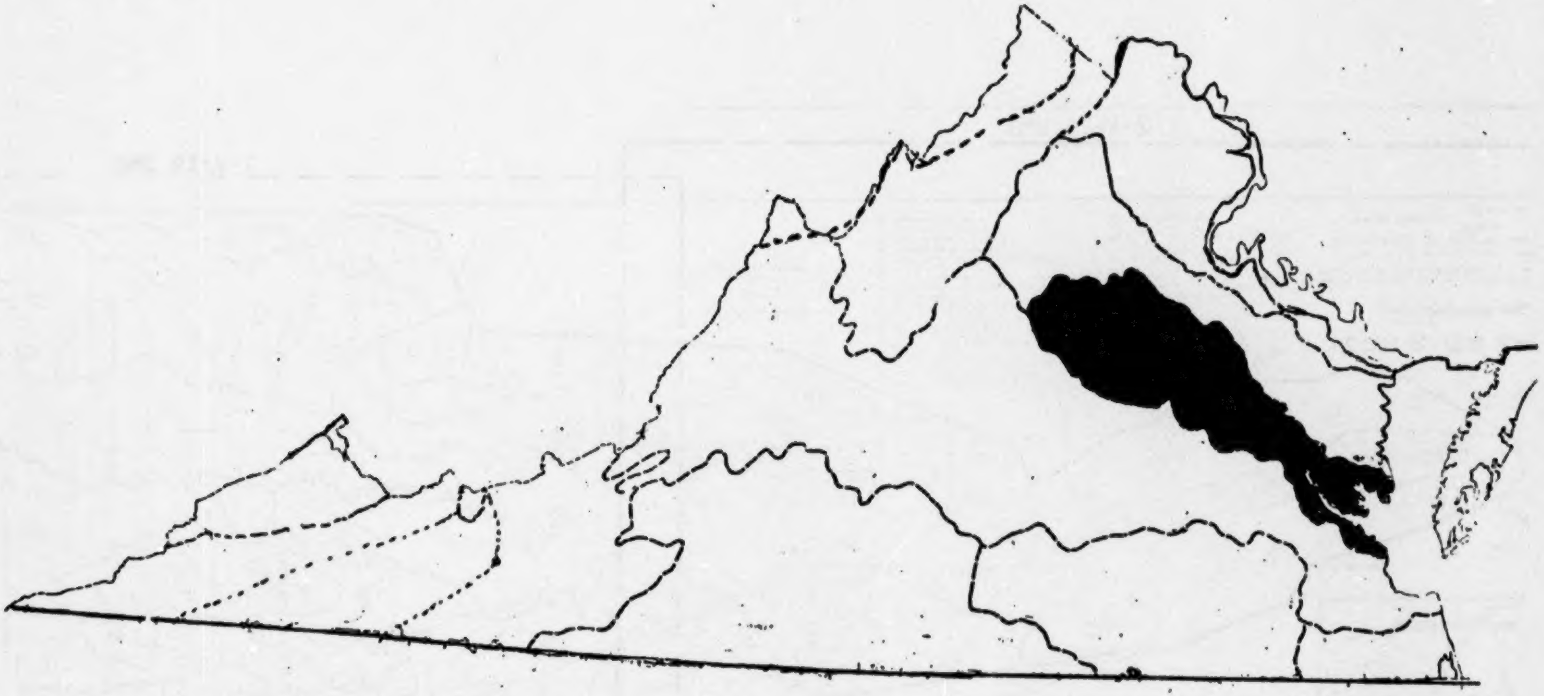
Water Quality Standards Summary

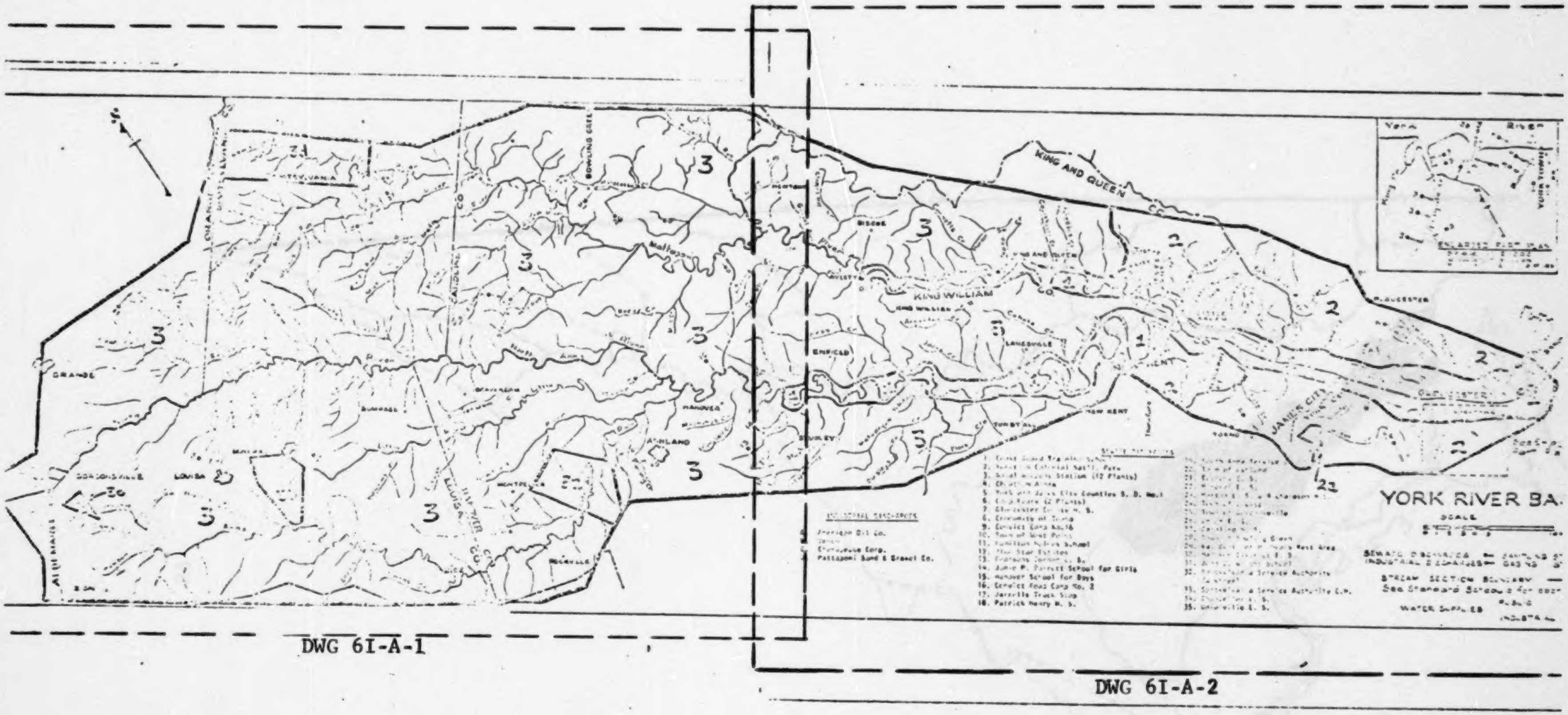
Section 6I

York River Basin

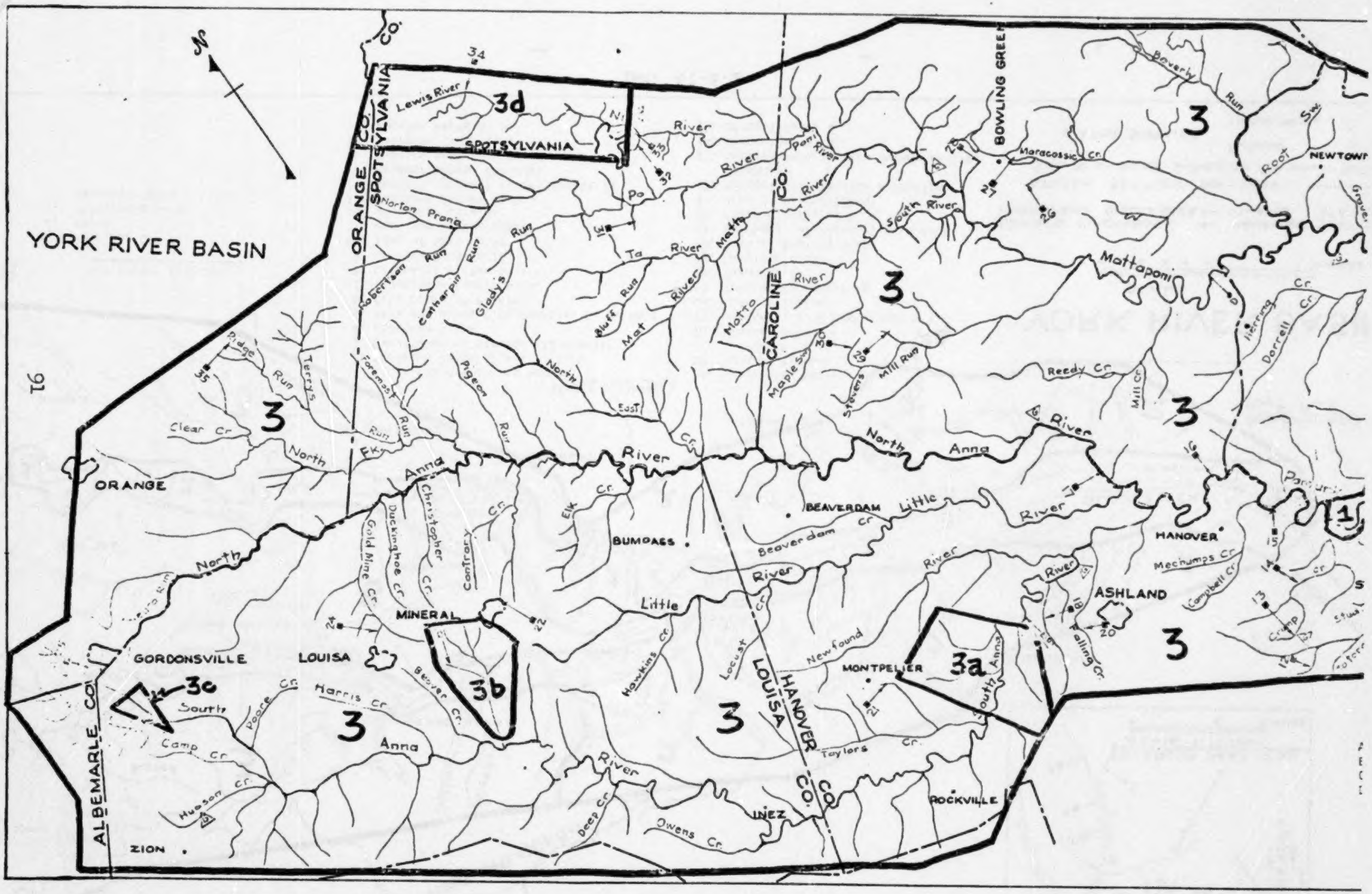
88a

York River Basin
DWG 6I

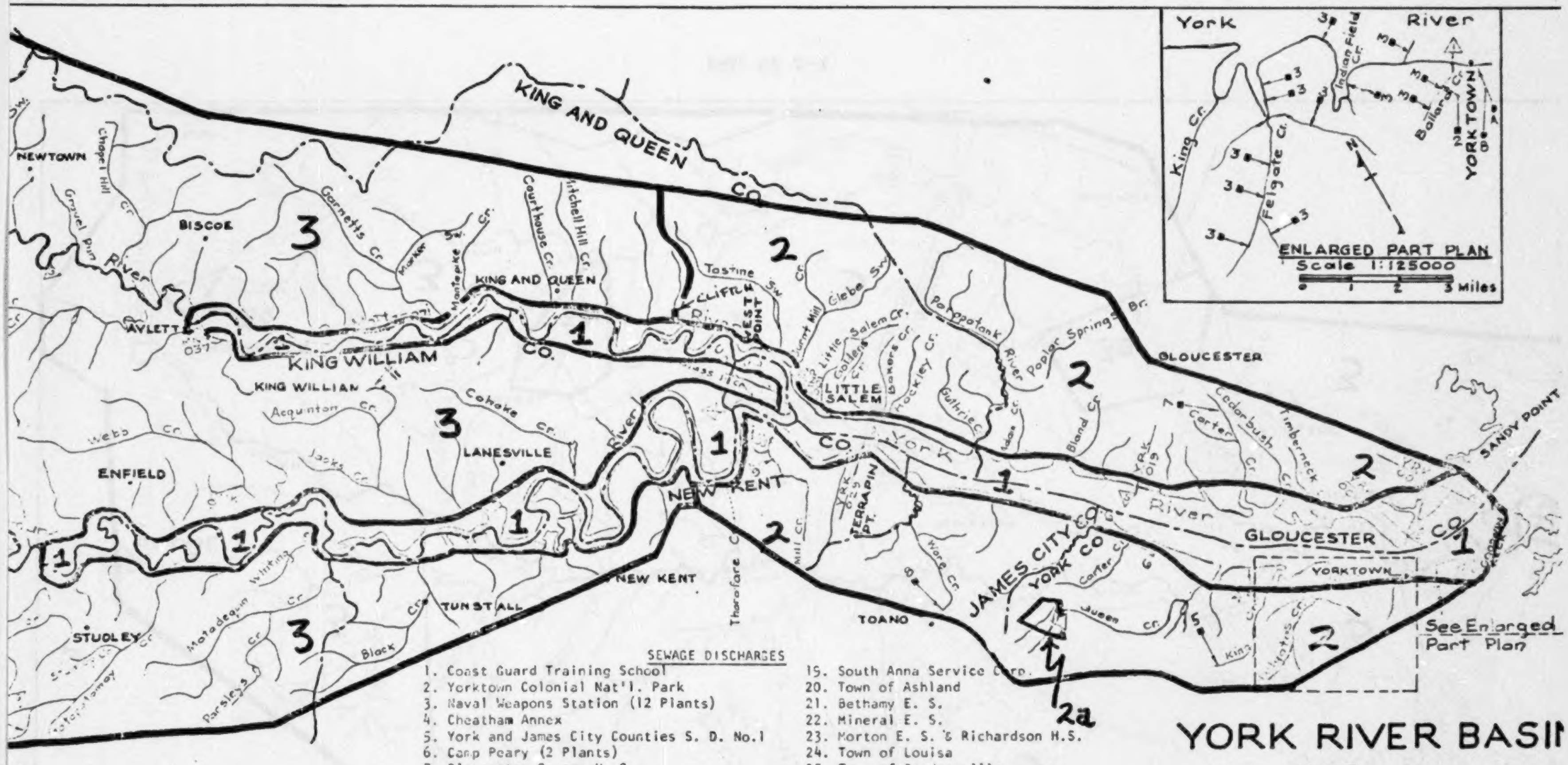



YORK RIVER BA
SCALE
KING AND QUEEN CO.
KING WILLIAM
KING WILLIAM CO.
JAMES CITY
GLOUCESTER
ORANGE
GORDONSVILLE
LOUISA
ASHLAND
HANOVER
ENFIELD
NEW KENT
BOWLING GREEN
SPOTSYLVANIA
York
River
ENLARGED PLOT PLAN
INDUSTRIAL DISCHARGES
American Oil Co.
Chesapeake Corp.
Mattaponi Sand & Gravel Co.
STATE INSTITUTIONS
Hanover School for Boys
Convict Road Camp No. 2
Jarrells Truck Stop
Patrick Henry H. S.
SEWAGE DISCHARGES
INDUSTRIAL DISCHARGES
STREAM SECTION BOUNDARY
See Standard Schedule for
WATER SUPPLIES
PUBLIC
INDUSTRIAL
DWG 6I-A-1
DWG 6I-A-2

DWG 6I-A


YORK RIVER BASIN
N
ORANGE CO.
SPOTSYLVANIA CO.
SPOTSYLVANIA
CAROLINE CO.
LOUISA CO.
HANOVER CO.
ALBEMARLE CO.
3
3a
3b
3c
3d
1
ORANGE
GORDONSVILLE
LOUISA
MINERAL
BUMPASS
BEAVERDAM
MONTPELIER
ROCKVILLE
INEZ
ZION
ASHLAND
HANOVER
BOWLING GREEN
NEWTOWN
Lewis River
Po River
Ta River
Mat River
Matta River
Poni River
South River
Mattaponi
North Anna River
Little River
South Anna River
North Fk.
Terrys Run
Ridge Run
Clear Cr.
Foremost Run
Robertson Run
Catharpin Run
Gladys Run
Norton Prong
Pigeon Run
Bluff Run
North East Cr.
Motto River
Maple Sw.
Stevens Mill Run
Reedy Cr.
Mill Cr.
Herring Cr.
Dorrell Cr.
Beverly Run
Maracossic Cr.
Root Sw.
Elk Cr.
Contrary Cr.
Christopher Cr.
Duckinghoe Cr.
Gold Mine Cr.
Beaver dam Cr.
Hawkins Cr.
Locust Cr.
New found River
Taylors Cr.
Falling Cr.
Mechumps Cr.
Campbell Cr.
Crump Cr.
Pamunkey
Beaver Cr.
Harris Cr.
Poore Cr.
Camp Cr.
Hudson Cr.
Deep Cr.
Owens Cr.
34
35
33
32
31
30
29
28
27
26
24
22
21
20
18
17
16
15
14
13

DWG 6I A-1



YORK RIVER BASI

SEWAGE DISCHARGES

1. Coast Guard Training School
2. Yorktown Colonial Nat'l. Park
3. Naval Weapons Station (12 Plants)
4. Cheatham Annex
5. York and James City Counties S. D. No.1
6. Camp Peary (2 Plants)
7. Gloucester County H. S.
8. Community of Toano
9. Convict Camp No.16
10. Town of West Point
11. Hamilton Holmes School
12. Blue Star Estates
13. Pearsons Corner E. S.
14. Janie P. Barrett School for Girls
15. Hanover School for Boys
16. Convict Road Camp No. 2
17. Jarrells Truck Stop
18. Patrick Henry H. S.
19. South Anna Service Corp.
20. Town of Ashland
21. Bethamy E. S.
22. Mineral E. S.
23. Morton E. S. & Richardson H.S.
24. Town of Louisa
25. Town of Gordonsville
26. Union E. S.
27. Caroline H. S.
28. Town of Bowling Green
29. Va. Dept. of Highways Rest Area
30. Madison District E. S.
31. John J. Wright School
32. Spotsylvania Service Authority (Wishner)
33. Spotsylvania Service Authority C.H.
34. Chancellor E. S.
35. Unionville E. S.

INDUSTRIAL DISCHARGES

A. American Oil Co.
B. Vepco
C. Chesapeake Corp.
D. Mattaponi Sand & Gravel Co.

DWG 6I-A-2

YORK RIVER BASIN

Section	Section Description	Class	Special Standards
1	York River and the tidal portions of its tributaries from Goodwin Neck and Sandy Point upstream to Thorofare Creek and Little Salem Creek near West Point; Mattaponi River and the tidal portions of its tributaries from Little Salem Creek to the end of tidal waters; Pamunkey River and the tidal portions of its tributaries from Thorofare Creek near West Point to the end of tidal waters.	II B	a
2	Free flowing tributaries of the York River, free flowing tributaries of the Mattaponi River to Clifton and the Pamunkey River to Romancoke, unless otherwise designated.	III B	
2a	Queen Creek and Wallers Mill Pond to the headwaters of the pond.	III B	Public Water Supply
3	Free flowing portions of the Mattaponi and Pamunkey Rivers, free flowing tributaries of the Mattaponi above Clifton, and free flowing tributaries of the Pamunkey above Romancoke unless otherwise designated.	III A	
3a	South Anna River from Ashland's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
3b	Northeast Creek from the proposed site of the impoundment dam to its headwaters.	III A	Public Water Supply
3c	South Anna River from route 15 upstream to a point 1.5 miles below the present effluent from the Gordonsville Sewage Treatment Plant.	III B	
3d	Ni River and its tributaries from Spotsylvania's raw water intake near route 208 to their headwaters.	III A	Public Water Supply

Water Quality Standards Summary

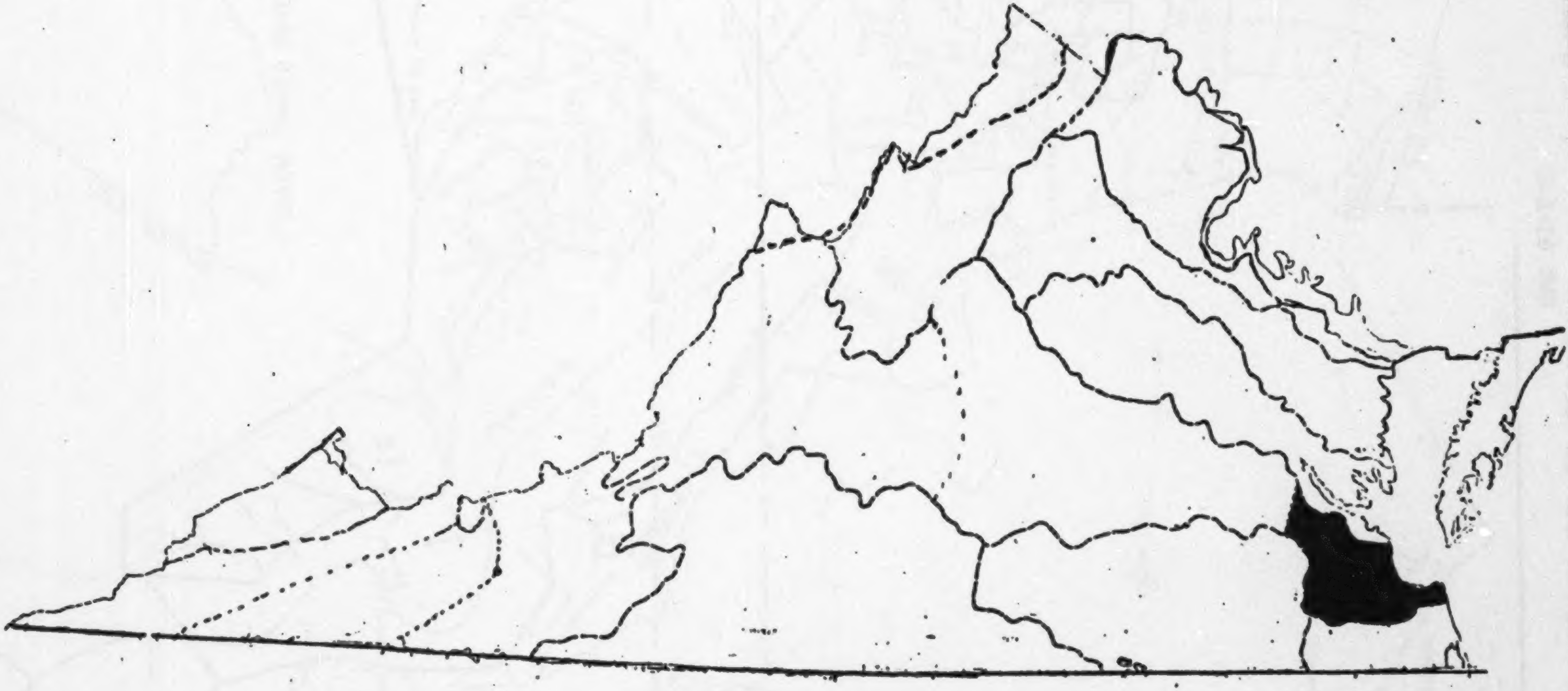
Section 6J

James River Basin (Lower)

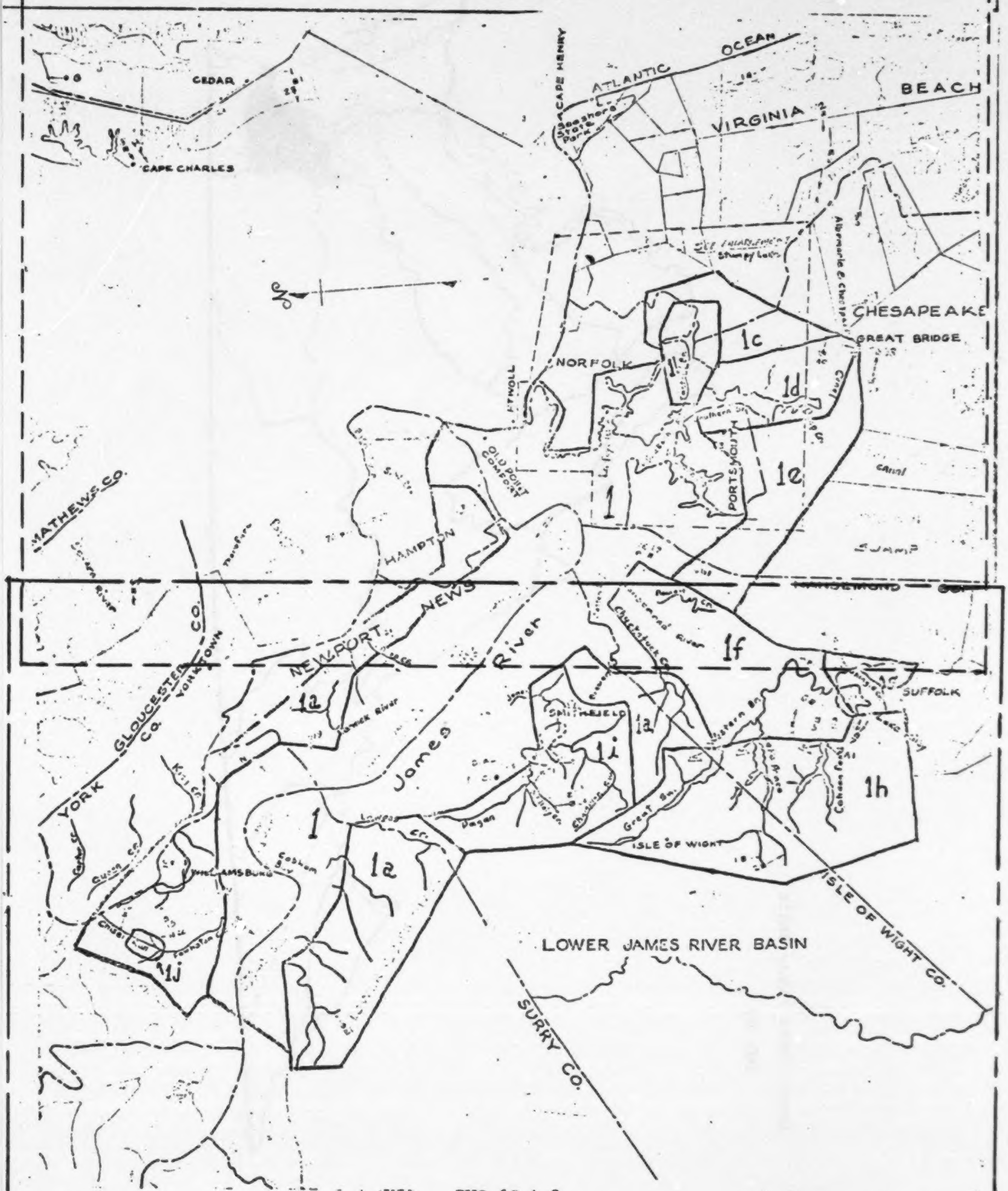
94

Lower James River Basin

DWG 6J

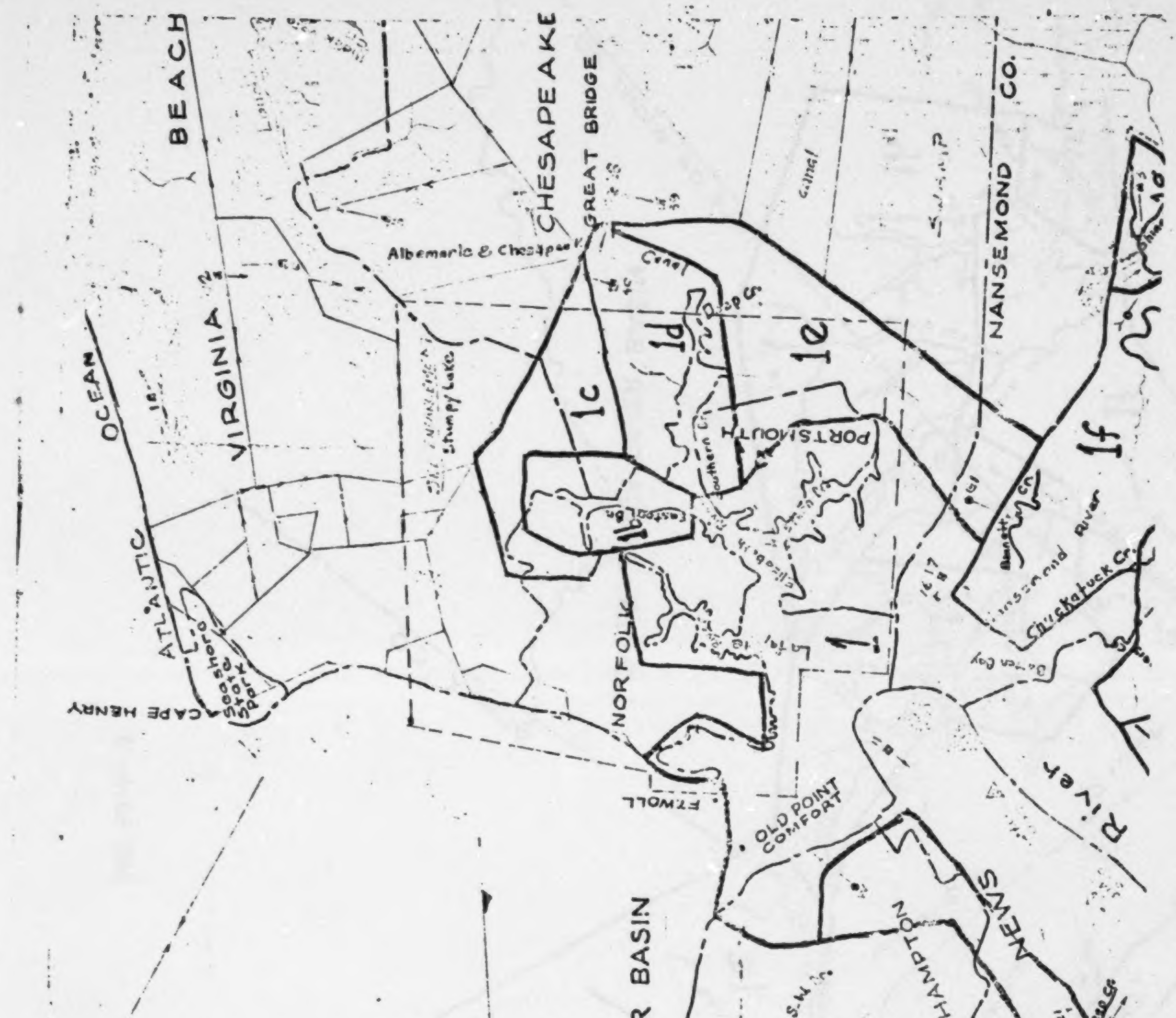


DWG 6J-A-1



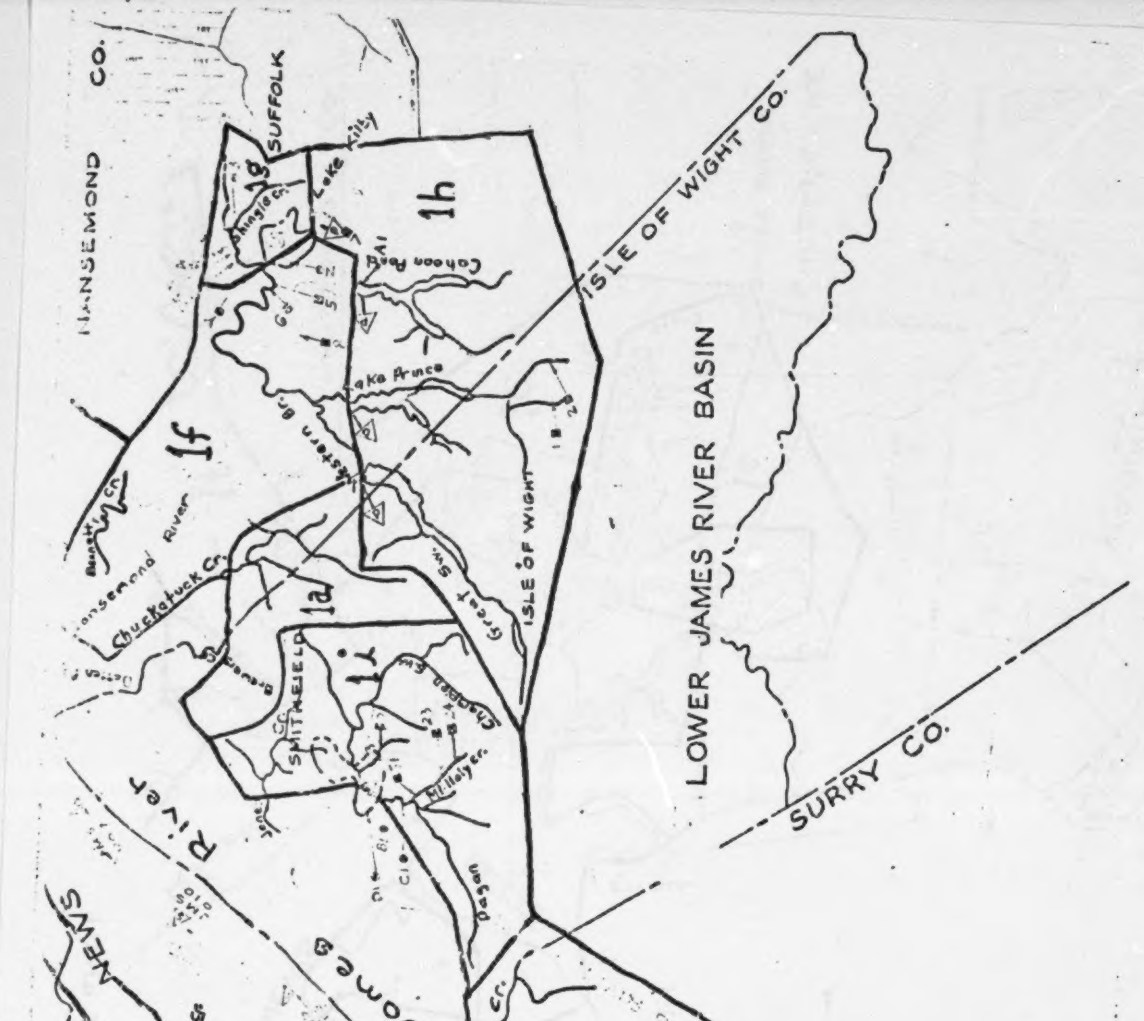
DWG 6J A-2

DWG 6J-A



LOWER JAMES RIVER BASIN

DWG 6J-A-1


NANSEMOND CO.
SUFFOLK
Lake Kilby
1g
Shingle Cr.
1h
Cahoon Pond
ISLE OF WIGHT CO.
Lake Prince
1f
Western Br.
Bennetts Cr.
Nansemond River
Chuckatuck Cr.
1a
ISLE OF WIGHT
Great Sw.
1i
SMITHFIELD
Chapman Sw.
LOWER JAMES RIVER BASIN
SURRY CO.
James River
NEWPORT NEWS
Warwick River
Lawnes Cr.
Dagan
1a
1a
1
Cobham Bay
WILLIAMSBURG
King Cr.
1j
Chisel Run
Powhatan Cr.
GLOUCESTER CO.
YORKTOWN
YORK CO.

DWG 6J-A--2

JAMES RIVER BASIN (LOWER)

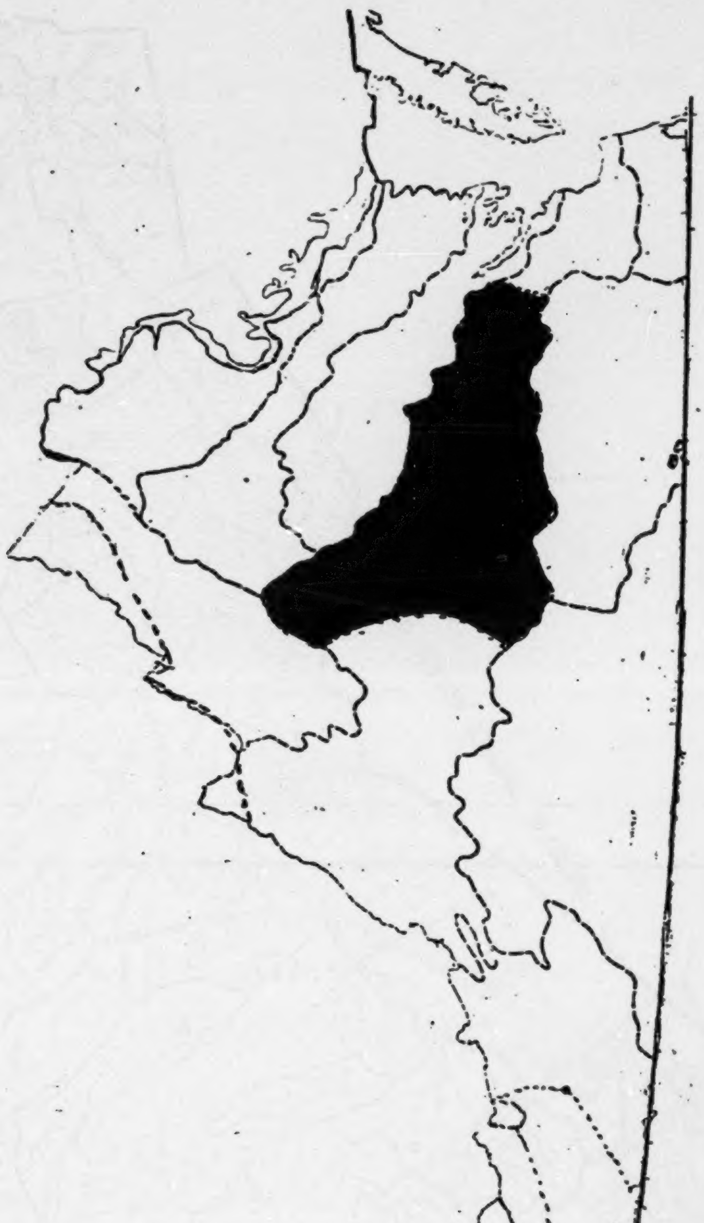
Section	Section Description	Class	Special Standards
1	James River and its tidal tributaries from Old Point Comfort--Fort Wool to Barrett Point (Buoy 64), except prohibited or or spoil areas, unless otherwise designated.	II B	a
1a	The free flowing or non-tidal portions of streams in section 1 unless otherwise designated.	III B	s
1b	Eastern Branch of the Elizabeth River from its confluence with the Elizabeth River to end of navigable waters.	II B	a, h, i
1c	Free flowing portions of the Eastern Branch of the Elizabeth River.	III B	h, i
1d	Southern Branch of the Elizabeth River from its confluence with the Elizabeth River to the lock at Great Bridge.	II B	a
1e	Free flowing portions of the Western Branch of the Elizabeth River and of the Southern Branch of the Elizabeth River from its confluence with the Elizabeth River to the lock at Great Bridge.	III B	
1f	The Nansemond River and its tributaries from its confluence with the James River to Suffolk (dam at Lake Meade), unless otherwise designated.	II B	a, l
1g	Shingle Creek from its confluence with the Nansemond River to its headwaters in the Dismal Swamp.	II B	l
1h	Lake Prince, Lake Burnt Mill and Western Branch impoundments for Norfolk raw water supplies and Lake Kilby--Cahoon Pond and Lake Meade impoundment for Portsmouth raw water supply.	III B	b Public Water Supply
1i	Free flowing portions of Pagan River and its free flowing tributaries.	III B	
1j	Chisel Run and its tributaries, except that tributary into which Eastern State Hospital discharges, to their headwaters.	III B	s

Water Quality Standards Summary

Section 6K

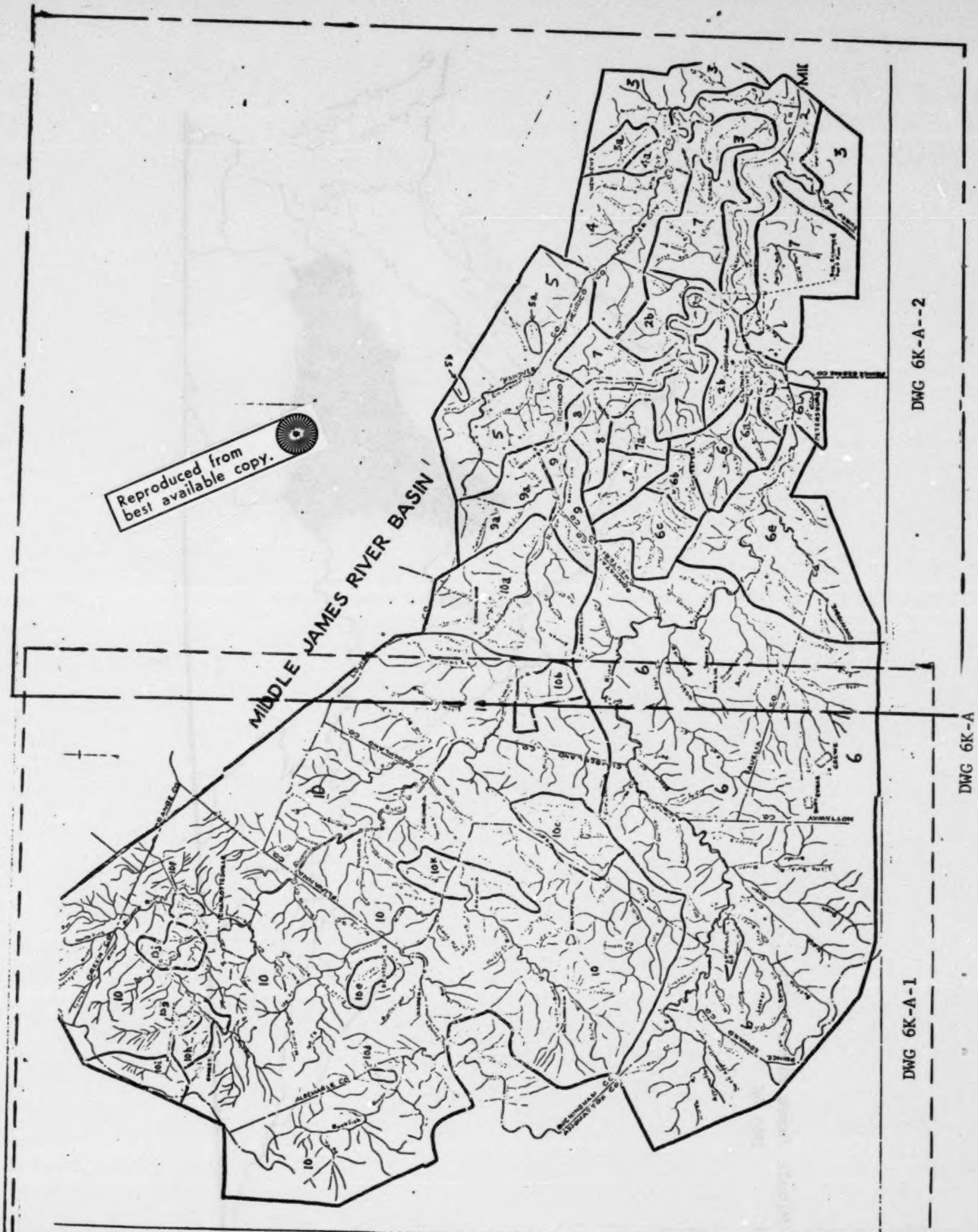
James River Basin (Middle)

10 0



Middle James River Basin

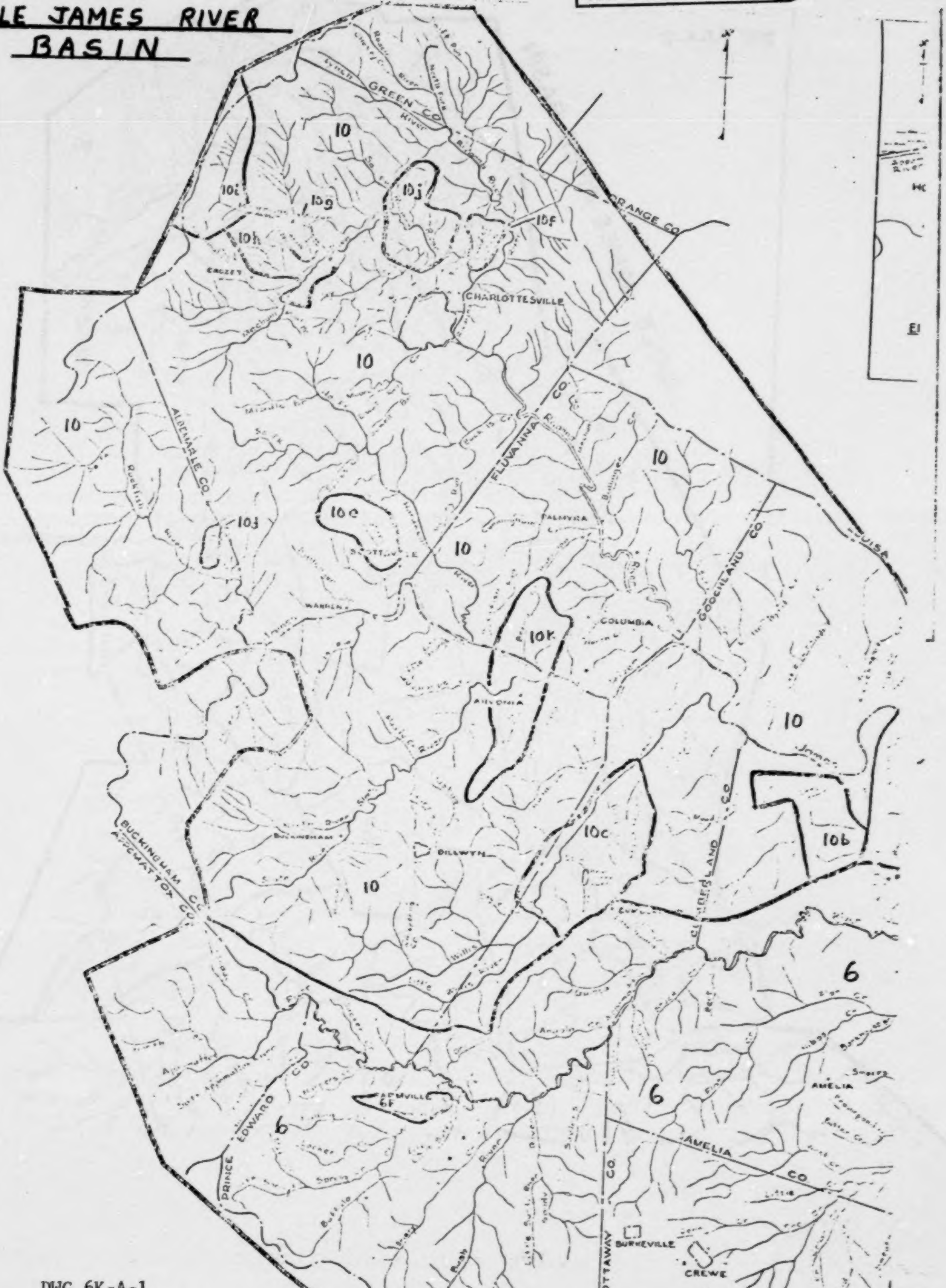
DWG 6K



Reproduced from
best available copy.

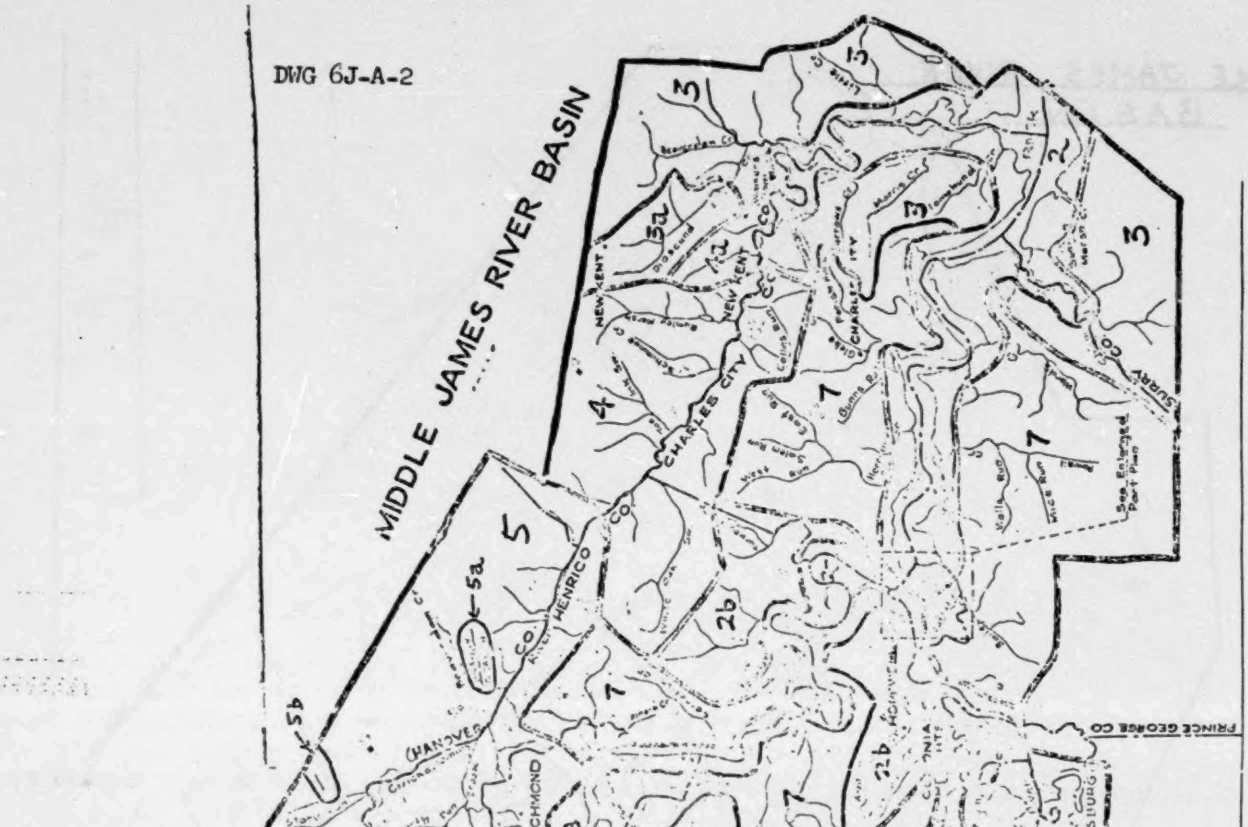
Reproduced from
best available copy.

MIDDLE JAMES RIVER BASIN



DWG 6K-A-1

DWG 6J-A-2



Reproduced from best available copy.

JAMES RIVER BASIN (MIDDLE)

Section	Section Description	Class	Special Standards
2	The James River and its tidal tributaries from Buoy 64 near Barrett's Point upstream to the fall line at Richmond, to include the Chickahominy River and its tidal tributaries from the mouth upstream to Walker's Dam and the Appomattox River and its tidal tributaries from the mouth upstream to the head of tidal waters (approximately at the route 1 - 301 Bridge across the Appomattox), unless otherwise designated.	II B	
2a	James River from City Point to a point 5 miles above American Tobacco Company's raw water intake and the Appomattox River from Hopewell's raw water intake to a point 5 miles upstream	II B	Public Water Supply
2b	Free flowing tributaries to Section 2a.	III B	Public Water Supply
3	Free flowing tributaries of the James River from Buoy 64 to Brandon and free flowing tributaries of the Chickahominy River to Walker's Dam, unless otherwise designated.	III B	
3a	Diascund Creek from Newport News' raw water intake dam to its headwaters.	III B	Public Water Supply
4	The Chickahominy River and its tributaries from Walker's Dam to Bottoms Bridge (route 60 Bridge).	III A	t
4a	Chickahominy River from Walker's Dam to a point 5 miles upstream.	III A	Public Water Supply t
5	Chickahominy River and its tributaries, unless otherwise designated, from Bottom's Bridge (route 60 Bridge) to its headwaters.	III A	t
5a	Brandy Branch (a tributary to Beaverdam Creek).	III B	t
5b	Unnamed tributary to Lickinghole Creek which has its confluence 1.38 miles above the mouth of Lickinghole Creek.	III B	t
6	Appomattox River from the head of tidal waters, and free flowing tributaries to the Appomattox River, to their headwaters, unless otherwise designated.	III A	
6a	Swift Creek and its tributaries from Colonial Heights' raw water intake to a point 5 miles upstream.	III B	Public Water Supply
6b	Swift Creek and its tributaries from the dam at Pocahontas State Park upstream to Chesterfield County's raw water impoundment dam.	III B	

JAMES RIVER BASIN (MIDDLE) (cont.)

Section	Section Description	Class	Special Standards
6c	Swift Creek and its tributaries from Chesterfield County's raw water impoundment dam to a point 5 miles upstream.	III A	Public Water Supply
6d	That portion of Old Town Creek within the corporate limits of Colonial Heights.	III B	
6e	Appomattox River and its tributaries from Petersburg's raw water intake to the headwaters of the Appomattox Water Authority impoundment lake.	III B	Public Water Supply
6f	Buffalo Creek from Farmville's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
7	Free flowing tributaries to the James River from Brandon to the fall line at Richmond, unless otherwise designated.	III A	
7a	Falling Creek and its tributaries from Bellwood Defense General Depot's raw water intake to a point 5 miles above Chesterfield County's raw water intake.	III A	Public Water Supply
8	James River and its tributaries from the low water dam above 14th Street Bridge to Richmond's raw water intake at Williams Island Dam.	III B	
9	James River and its tributaries, unless otherwise designated, from Richmond's raw water intake at Williams' Island Dam to a point 5 miles above Richmond's raw water intake at Bosher's Dam.	III B	o Public Water Supply
9a	Tuckahoe Creek from its confluence with the James River to its headwaters.	III B	n Public Water Supply
10	James River and its tributaries from a point 5 miles above Richmond's raw water intake at Bosher's Dam to and including the Rockfish River, unless otherwise designated.	III A	
	Trout Waters in Section 10:		
	Put and Take:	V A	
	Ivy Branch 1.5 miles upstream from the church above the junction of routes 628 and 614.		
	Swift Run from route 604 upstream 2.5 miles to route 810.		
	South Fork Moormans River from its confluence with Moormans River to its headwaters.		

JAMES RIVER BASIN (MIDDLE) (cont.)

Section	Section Description	Class	Special Standards
	North Fork Moormans River from its confluence with Moormans River to its headwaters.		
	South Fork Rockfish River from its confluence with the Rockfish River to its headwaters.		
	Stony Creek from its confluence with the South Fork Rockfish River to its headwaters.		
	Rockfish Creek from its confluence with the South Fork Rockfish River to its headwaters.		
	Natural:	VI A	
	Ivy Branch from route 810 to headwaters.		
	Swift Run from Albemarle County line to headwaters.		
10a	James River and its tributaries from and including Little River to 5 miles above State Farm's raw water intake including Beaverdam and Courthouse Creeks to their headwaters.	III A	Public Water Supply
10b	Deep Creek from St. Emma's Military Academy's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
10c	Willis River and its tributaries within Cumberland State Forest.	III B	
10d	Johnson Creek above Alberene Stone Corporation's raw water intake to its headwaters.	III A	Public Water Supply
10e	Totier Creek and its tributaries from Scottsville's raw water intake to their headwaters.	III A	Public Water Supply
10f	Powell Creek from its confluence with the Rivanna River upstream to its headwaters.	III B	
10g	Beaver Creek above Albemarle County Service Authority's raw water intake upstream to its headwaters.	III A	Public Water Supply
10h	Mechum River and its tributaries from Charlottesville's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
10i	Moormans River from Charlottesville's raw water intake to its headwaters.	III A	Public Water Supply
10j	South Fork Rivanna River and its tributaries, except Ivy Creek, from Charlottesville's South Fork Rivanna River Dam to the confluence of the South Fork Rivanna River and Moormans River, and Ivy Creek to a point 5 miles above the dam.	III A	Public Water Supply

JAMES RIVER BASIN (MIDDLE) (cont.)

Section	Section Description	Class	Special Standards
10k	James River and its tributaries from Fork Union Sanitary District's raw water intake (just below the route 15 bridge) to a point 5 miles upstream, including the Slate River to a point 5 miles above the intake.	III A	Public Water Supply

Water Quality Standards Summary

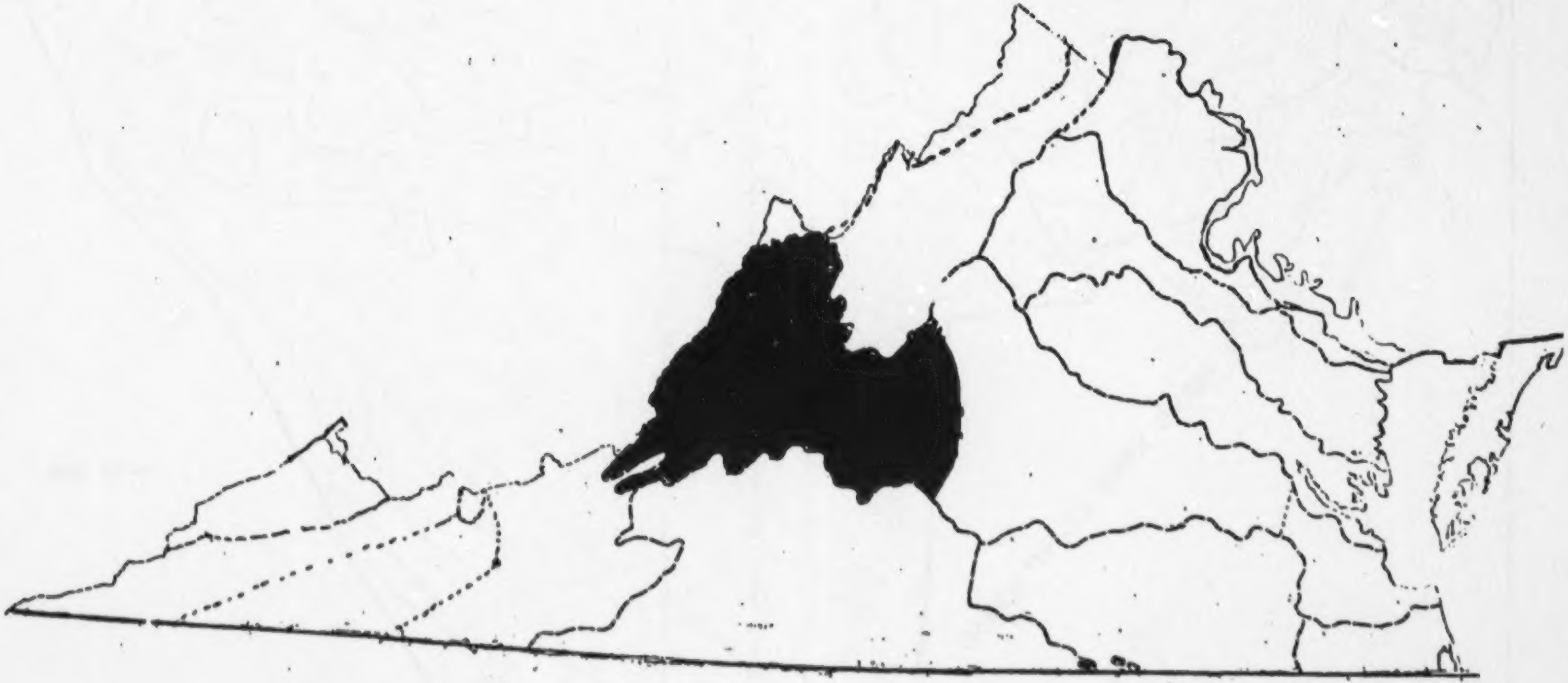
Section 6L

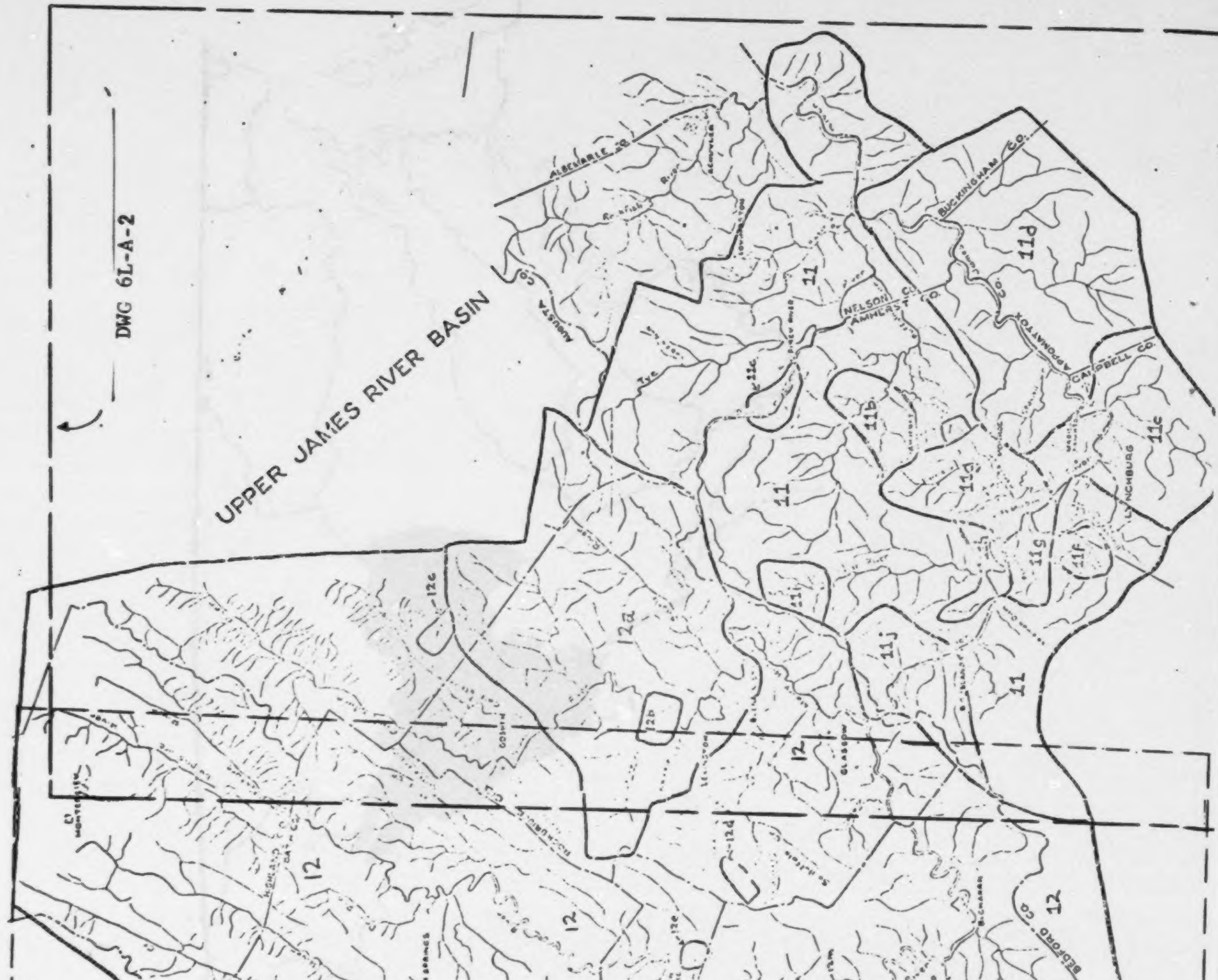
James River Basin (Upper)

108a

Upper James River Basin

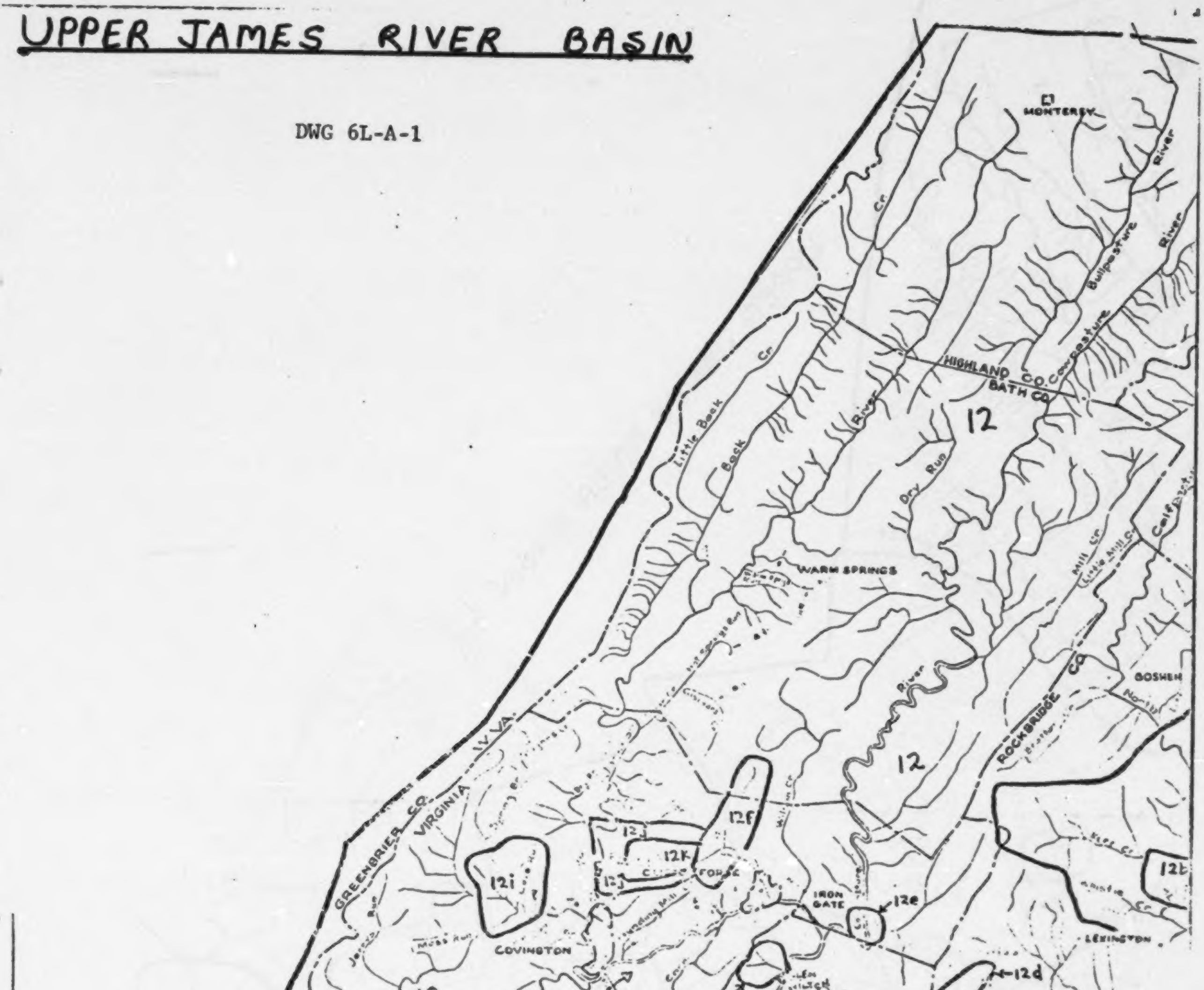
DWG 6L



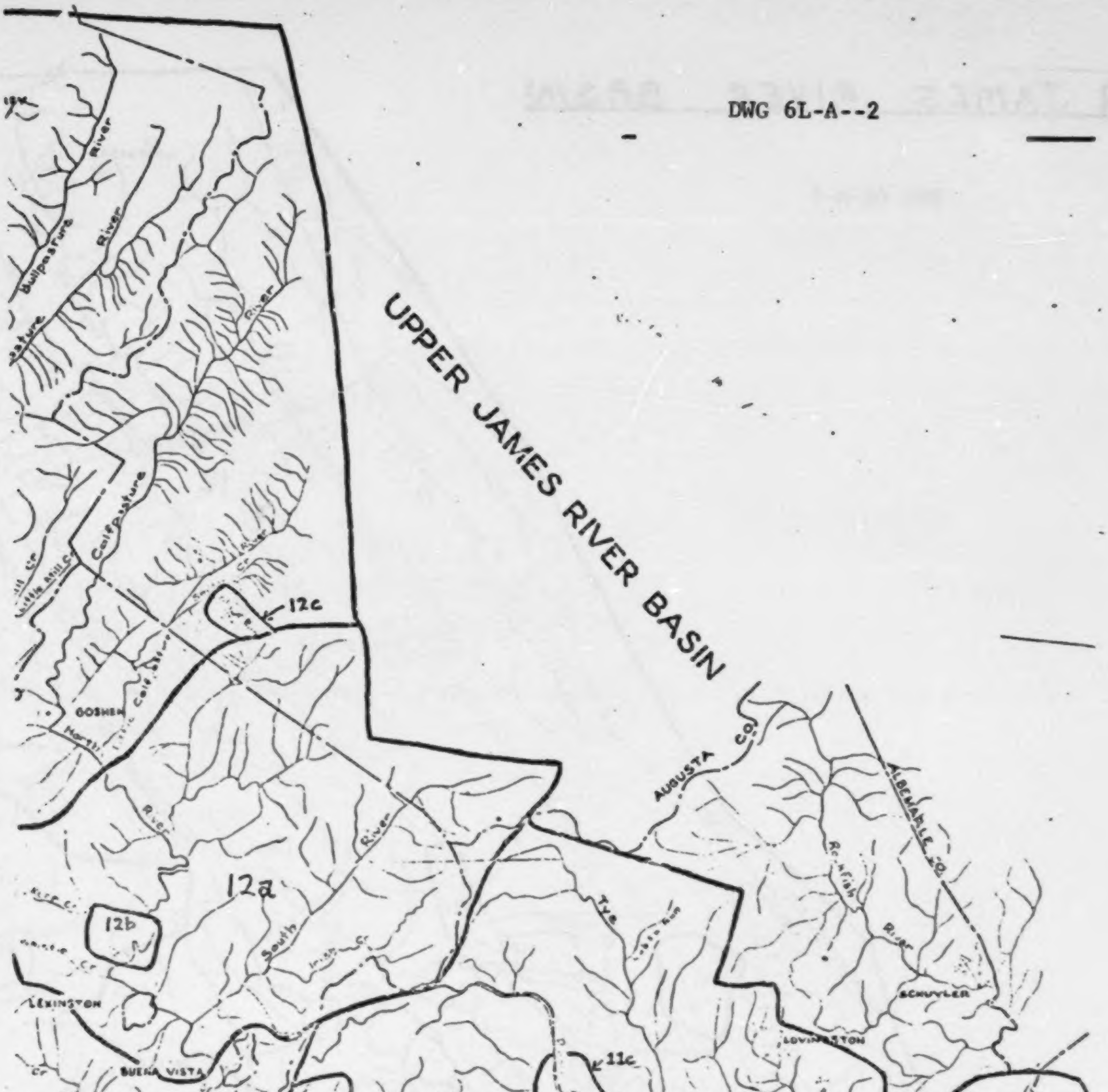

UPPER JAMES RIVER BASIN
DWG 6L-A-2
DWG 6L-A-1
DWG 6L-A
ALBEMARLE CO.
BUCKINGHAM CO.
NELSON CO.
AMHERST CO.
APPOMATTOX CO.
CAMPBELL CO.
LYNCHBURG
AUGUSTA CO.
ROCKBRIDGE CO.
BEDFORD CO.
BOTETOURT CO.
ALLEGHANY CO.
CRAIG CO.
GREENBRIER CO.
VIRGINIA
HIGHLAND CO.
MONROE CO.
WARM SPRINGS
COVINGTON
LEXINGTON
GLASGOW
BUCHANAN
FINCASTLE
NEW CASTLE
11
11
11
11
11a
11b
11c
11d
11e
11f
11g
11h
11j
12
12
12
12
12
12
12
12
12a
12b
12c
12d
12e
12f
12f
12i
12j

UPPER JAMES RIVER BASIN

DWG 6L-A-1



DWG 6L-A--2


UPPER JAMES RIVER BASIN
Bullpasture River
Calfpasture River
Cowpasture River
GOSHEN
12c
12a
12b
12
LEXINGTON
BUENA VISTA
GLASGOW
South River
Tye River
Pedlar River
Rockfish River
AUGUSTA CO.
ALBEMARLE CO.
SCHUYLER
LOVINGSTON
PINEY RIVER
11e
11
11i
11b
11j
AMHERST
NELSON CO.
AMHERST CO.
BIG ISLAND
11h
11g
MONROE
11
James
BUCKINGHAM CO.
APPOMATTOX CO.
11d
11g
11f
MADISON HEIGHTS
CAMPBELL CO.
LYNCHBURG
11c

JAMES RIVER BASIN (UPPER)

Section	Section Description	Class	Special Standards
11	James River and its tributaries from, but not including, the Rockfish River to, but not including, the Maury River.	III A	
	Trout Waters in Section 11: Natural: Enchanted Creek from its confluence with the Pedlar River upstream to its headwaters. Irish Creek from its confluence with the Pedlar River upstream to its headwaters. Pedlar River from 5 miles above Lynchburg's raw water intake upstream to its headwaters. Mill Creek from its confluence with the Pedlar River upstream to its headwaters. Staton Creek from its confluence with the Pedlar River upstream to its headwaters. Piney River from a point 5 miles above American Cyanamid's raw water intake upstream to its headwaters. North Fork Buffalo River from its confluence with the Buffalo River upstream to its headwaters. Tye River from Tyro upstream to its headwaters. North Fork Tye River from its confluence with the Tye River upstream to its headwaters.	VI A	
11a	Rutledge Creek from Sweet Briar College's raw water intake to its headwaters.	III A	Public Water Supply
11b	Buffalo River and its tributaries from Amherst's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
11c	Piney River and its tributaries from American Cyanamid Company's auxiliary raw water intake to a point 5 miles upstream.	III A	Public Water Supply
	Trout Waters in Section 11c: Natural: Piney River from American Cyanamid's raw water intake to a point 5 miles upstream.	VI A	

JAMES RIVER BASIN (UPPER) (cont.)

Section	Section Description	Class	Special Standards
11d	James River and its tributaries from a point ¼ mile above the confluence of the Buffalo River to Six Mile Bridge.	III A	g
11e	James River and its tributaries excluding Blackwater Creek from Six Mile Bridge to Scotts Mill Dam.	III B	
11f	Ivy Creek from Blue Ridge Farm's (Campbell County) raw water intake to a point 5 miles upstream.	III A	Public Water Supply
11g	James River and its tributaries from Scotts Mill Dam to Reusens Dam to include Madison Heights' raw water intake on Harris and Graham Creeks.	III B	Public Water Supply
11h	James River and its tributaries, excluding the Pedlar River, from Reusens Dam to Coleman's Dam.	III B	d Public Water Supply
11i	Pedlar River and its tributaries from Lynchburg's raw water intake to a point 5 miles upstream.	III A	Public Water Supply
	Trout Waters in Section 11i: Natural:	VI A	
	Pedlar River from Lynchburg's raw water intake to a point 5 miles upstream.		
	Brown's Mill Creek from its confluence with the Pedlar River upstream to its headwaters.		
11j	James River and its tributaries from the Owens-Illinois raw water intake near Big Island to, but not including, the Maury River.	III B	
	Trout Waters in Section 11j: Put and Take:	V B	
	Hunting Creek from its headwaters to a point 2 miles downstream.		
	Battery Creek from its headwaters to a point 2 miles downstream.		
	Natural:	VI B	
	Rocky Row Run from the telegraph line above Snowden to its headwaters.		

JAMES RIVER BASIN (UPPER) (cont.)

Section	Section Description	Class	Special Standards
12	James River and its tributaries from and including the Maury River to its headwaters unless otherwise designated.	IV A	
	Trout Waters in Section 12: Put and Take: Potts Creek from the junction of routes 18 and 615 to the Craig County line. East Dry Branch from its confluence with Calfpasture to headwaters. Roaring Run from route 615 to headwaters. Mill Creek from the junction of routes 622 and 612 to headwaters. Jennings Creek from the junction of routes 11 and 614 to headwaters. Bullpasture River from the junction of Cowpasture and route 678 to headwaters. Jackson River from its junction with route 603 to headwaters. Potts Creek from the junction of routes 311 and 18 to its headwaters. Johns Creek from the junction of routes 632 and 658 to its headwaters. Buffalo Creek from the junction with route 11 north 4.5 miles.	V A	
	Natural: Simpson Creek from the junction of routes 776 and U. S. route 60 to its headwaters. Pounding Mill Creek from its junction with route 771, 2 miles north of Covington, to headwaters. Jerrys Run from its junction with route 60 and 782 to its headwaters. Dunlap Creek from the town of Crows to its headwaters.	VI A	

JAMES RIVER BASIN (UPPER) (cont.)

Section	Section Description	Class	Special Standards
	Blue Springs Run from its confluence with Potts Creek to its headwaters.		
	Calfpasture River from its junction with routes 250 and 715 to headwaters.		
	Clayton Mill Creek from its junction with route 600 to its headwaters.		
	Jerkentight from its confluence with the Calfpasture River to its headwaters.		
	Ramsey's Draft from its confluence with the Calfpasture River to its headwaters.		
	Fridleys Branch from its confluence with the Calfpasture River to its headwaters.		
	St. Marys River from route 606 to its headwaters.		
	Little Mill Creek from its confluence with the Maury River to route 39.		
	Little Back Creek from route 600 to its headwaters.		
	Wilson Creek from Douthat State Park to its headwaters.		
	Muddy Run from route 220 to its headwaters.		
	Smith Creek from its confluence with Wilson Creek to its headwaters.		
	Mares Run from its junction with route 39 at Bath Alum to its headwaters.		
	Cedar Creek from its confluence with the Jackson River to its headwaters.		
	Pads Creek from its junction with routes 42 and 630 to its headwaters.		
	North Creek from its confluence with Jennings Creek to its headwaters.		
	Middle Creek from its confluence with Jennings Creek to its headwaters.		
	Cornelius Creek from its confluence with Jennings Creek to its headwaters.		
	Hypes Creek from route 696 to its headwaters.		

JAMES RIVER BASIN (UPPER) (cont.)

Section	Section Description	Class	Special Standards
	Sinking Creek from route 697 to its headwaters.		
	Madison Creek from route 682 to its headwaters.		
	Crab Run from its confluence with Bullpasture River to its headwaters.		
	Davis Run from route 678 to its headwaters.		
	Barbours Creek from the junction of routes 611 and 617 to its headwaters.		
	Cove Creek from its confluence with Craig Creek to its headwaters.		
	Lick Branch from its confluence with Craig Creek to its headwaters.		
	Broad Run from its junction with routes 311 and 618 to its headwaters.		
	Elk Creek from route 799 to its headwaters (1.5 miles)		
	Brattons Run from its confluence with the Maury River to its headwaters.		
	Guys Run from its confluence with the Maury River to its headwaters (3.6 miles).		
12a	Maury River and its tributaries, unless otherwise designated, from U. S. Route 60 Bridge to its confluence with the Little Calfpasture River.	IV B	
	Trout Waters in Section 12a:		
	Put and Take:	V B	
	Hays Creek from its confluence with the Maury River to Brownsburg (9.5 miles).		
	Irish Creek from its confluence with the South River to its headwaters (along route 603 - 9 miles).		
	Natural:	VI B	
	Big Mary's Creek from its confluence with the South River to its headwaters.		
	Laurel Run from its confluence with the Maury River to its headwaters (2 miles).		
	Mill Creek from its confluence with the Maury River to its headwaters.		

JAMES RIVER BASIN (UPPER) (cont.)

Section	Section Description	Class	Special Standards
12b	Maury River and its tributaries from Lexington's raw water intake to a point 5 miles upstream.	IV A	Public Water Supply
12c	Black Run from Craigsville's raw water intake to its headwaters.	IV A	Public Water Supply
12d	Moores Creek located on Brushy Mountain.	IV A	Public Water Supply
12e	Cowpasture River from the Allegheny-Botetourt County line upstream to U. S. Route 60 bridge.	IV B	
12f	Smith Creek and Clifton Forge Reservoir from Clifton Forge's raw water intake to their headwaters.	IV A	Public Water Supply
	Trout Waters in Section 12f: Natural: Smith Creek from 4 miles north of Clifton Forge Route 606 to its headwaters.	VI A	Public Water Supply
12g	Mill Branch located on Horse Mountain.	IV A	Public Water Supply
12h	Potts Creek and its tributaries from Hercules Incorporated's raw water intake to a point 5 miles upstream.	IV A	Public Water Supply
12i	Dunlop Creek and its tributaries from the Covington Boys' Home's raw water intake to a point 5 miles upstream.	IV A	Public Water Supply
12j	Jackson River and its tributaries from Covington's raw water intake to a point 5 miles upstream.	IV A	Public Water Supply
12k	Roaring Run above Clearwater Park's raw water intake to its headwaters.	IV A	Public Water Supply
12l	Unnamed tributary to the James River from Glen Wilton's raw water intake to its headwaters.	IV A	Public Water Supply
12m	Unnamed tributary to the James River from Eagle Rock's raw water intake to its headwaters.	IV A	Public Water Supply

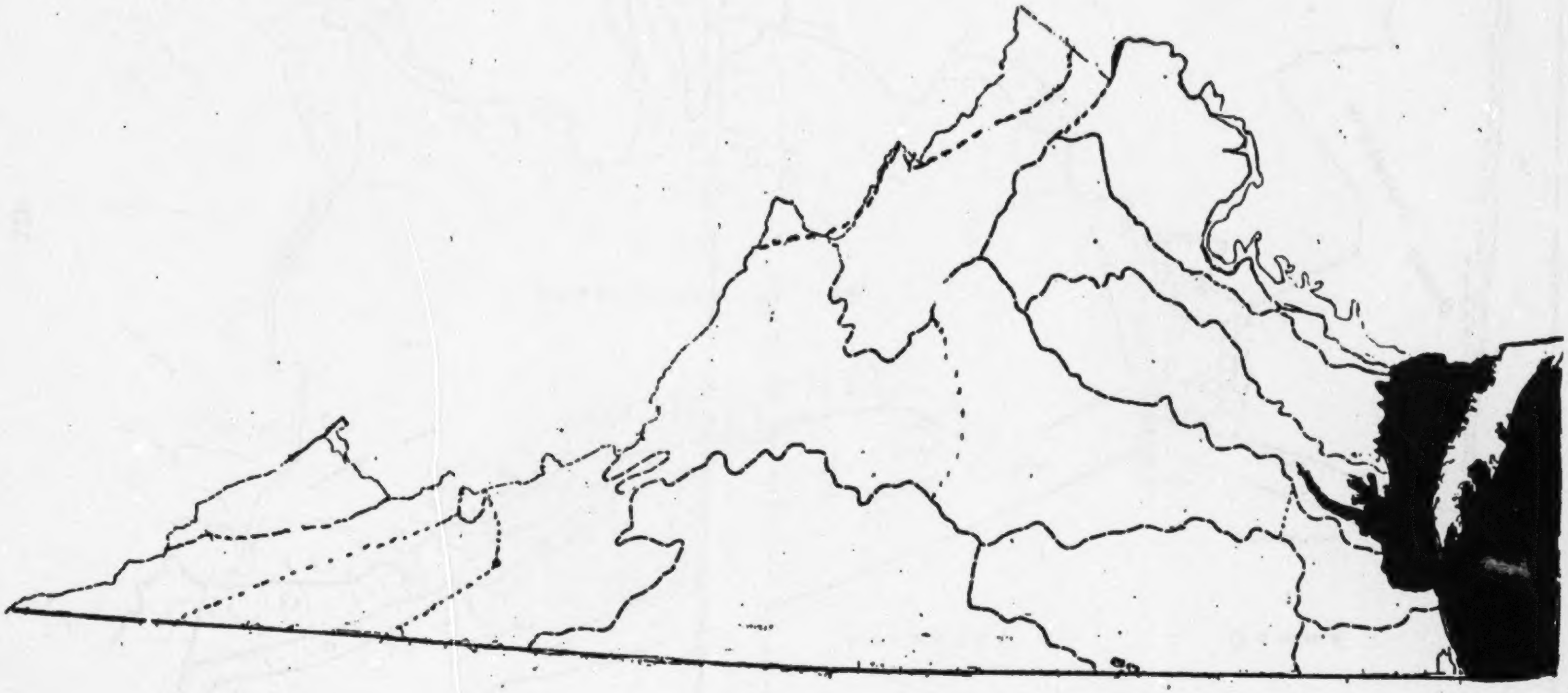
Water Quality Standards Summary

Section 6M

Chesapeake Bay and Atlantic Ocean

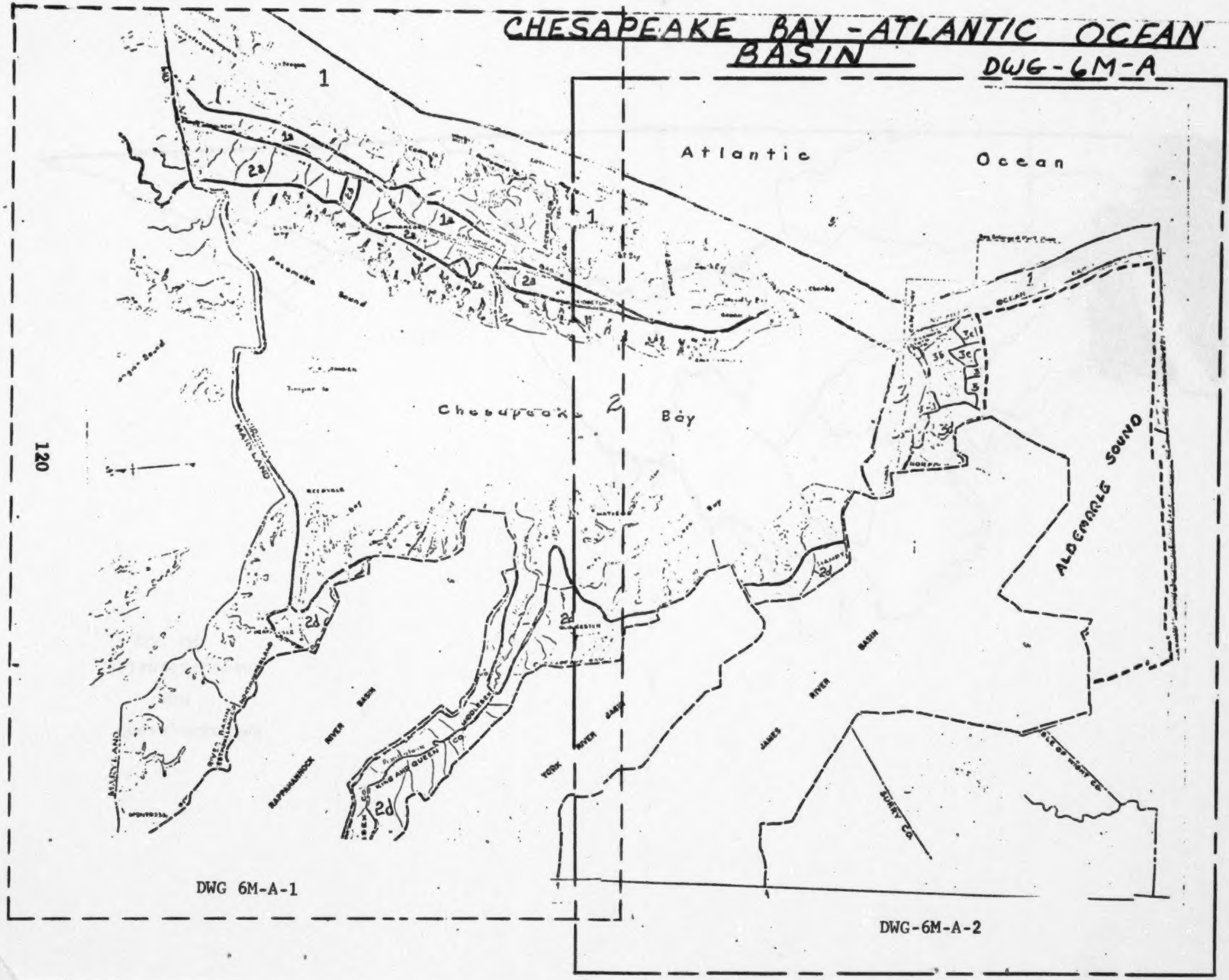
118a

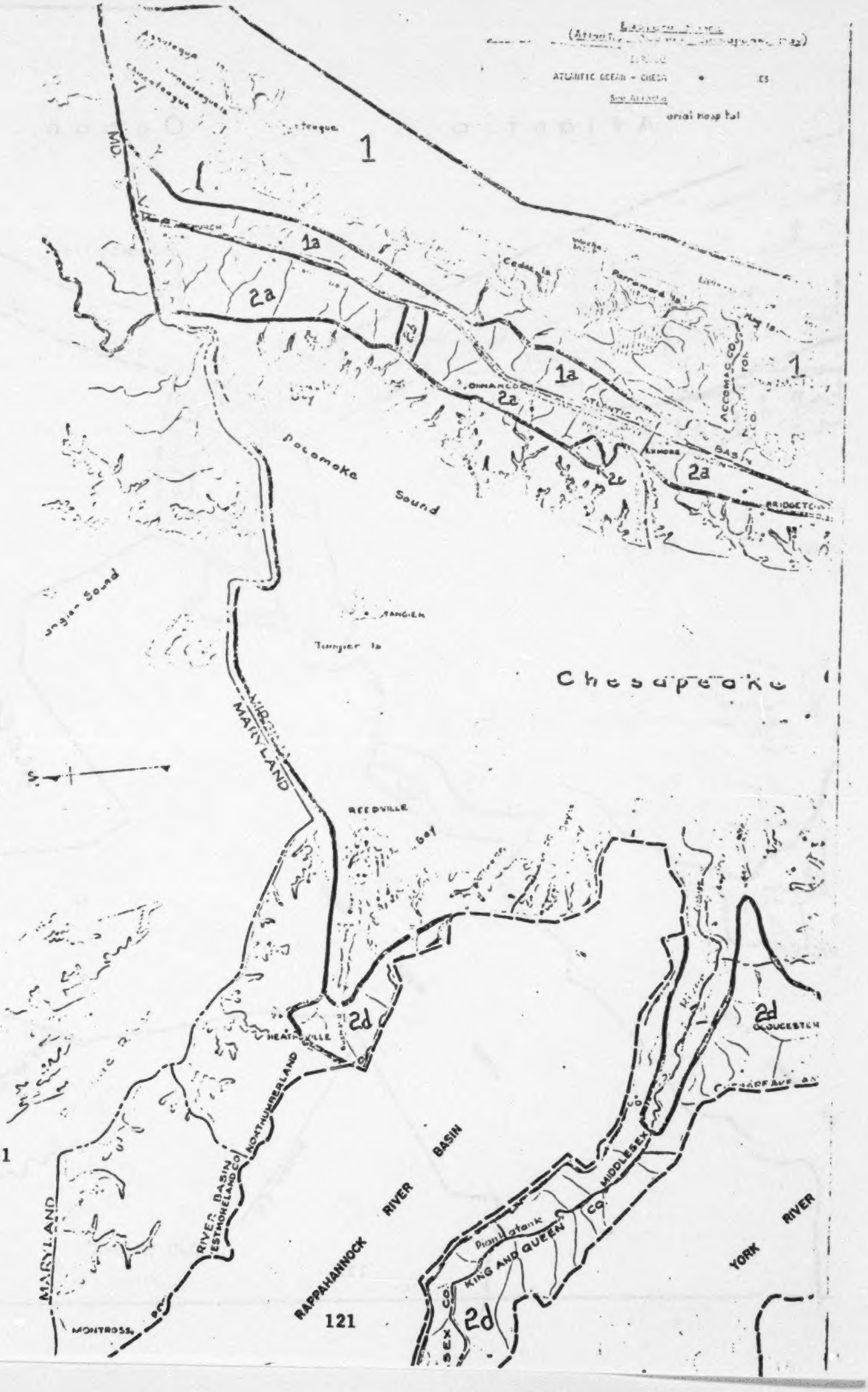
Chesapeake Bay
and
Atlantic Ocean
DWG 6M



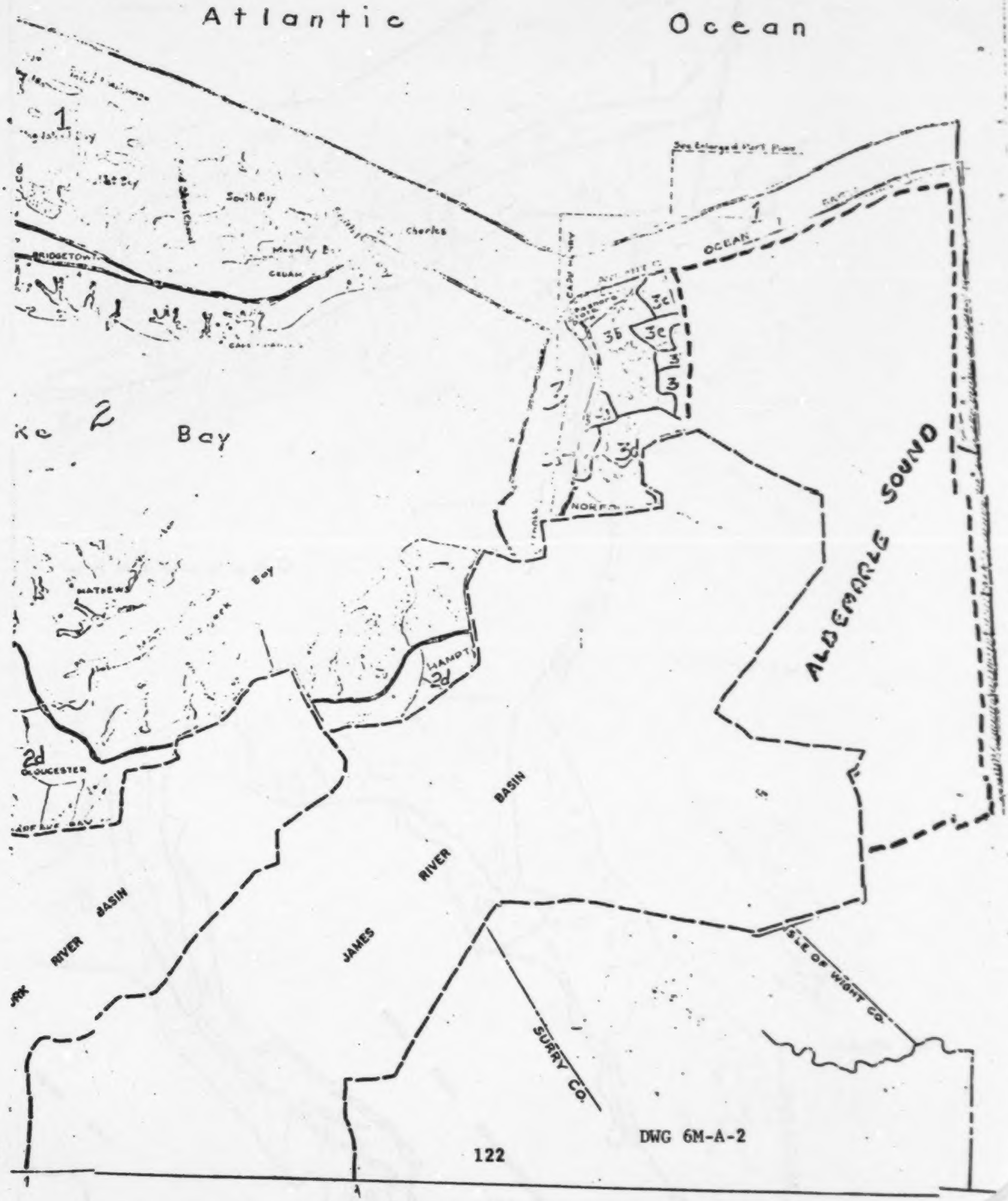
CHESAPEAKE BAY - ATLANTIC OCEAN BASIN

DWG-6M-A

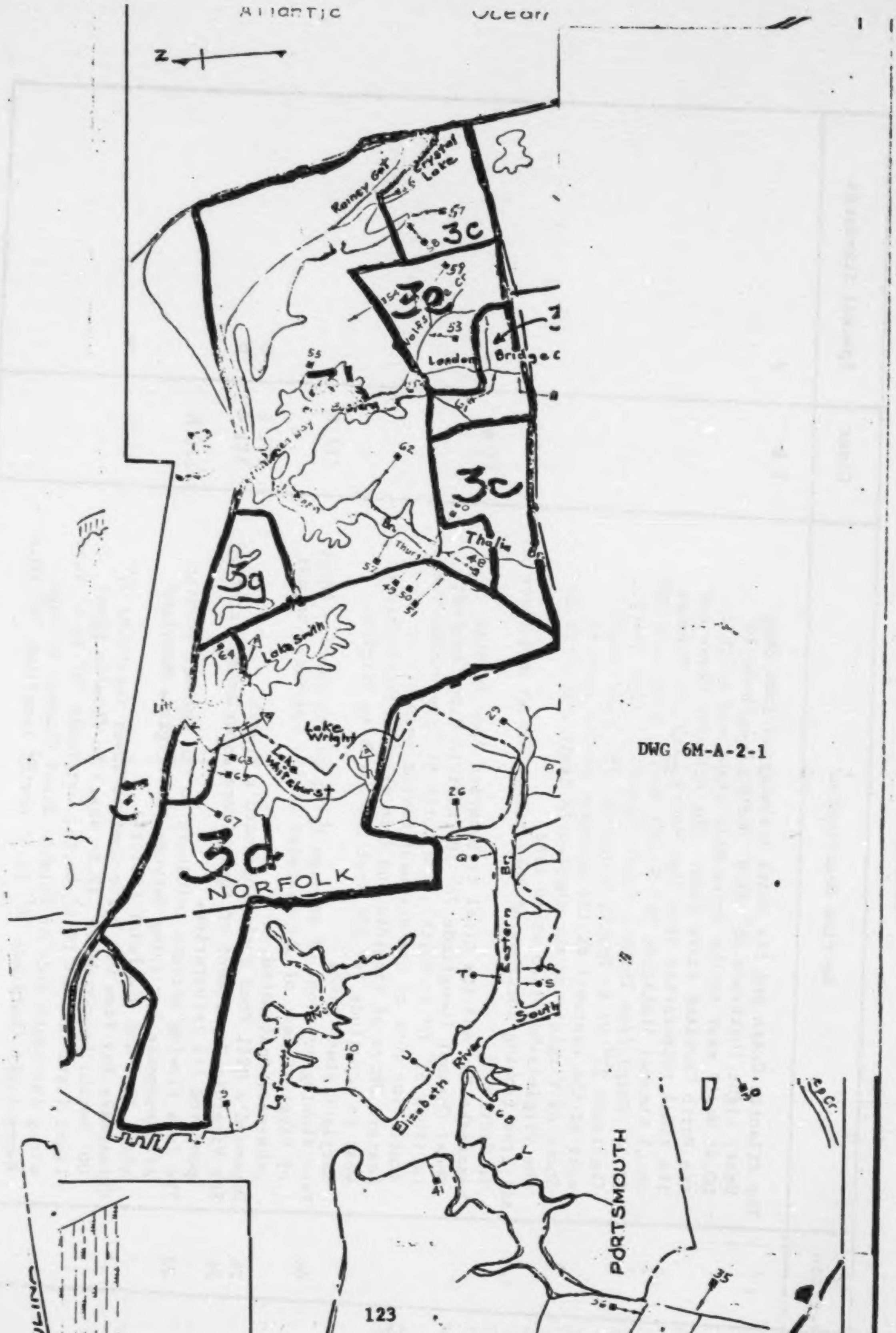



ATLANTIC OCEAN - CHESA
See Attache
orial Hospital
Assateague
Chincoteague
MD.
1
1a
2a
2b
Cedar Is.
Parramore Is.
ACCOMAC CO.
ONANCOCK
ATLANTIC
BASIN
2c
BRIDGETOWN
Pocomoke Sound
Tangier Sound
TANGIER
Tangier Is.
Chesapeake
MARYLAND
REEDVILLE
2d
HEATHSVILLE
GLOUCESTER
CHESAPEAKE BA
NORTHUMBERLAND
WESTMORELAND CO.
RIVER BASIN
RAPPAHANNOCK RIVER BASIN
MIDDLESEX CO.
KING AND QUEEN CO.
YORK RIVER
MONTROSS

DWG 6M-A-1


Atlantic
Ocean
1
South Bay
Charles
BRIDGETOWN
See Enlarged Port Plan
1
OCEAN
3d
3b
3e
3
3
3
3d
NORFO
ke
2
Bay
MATHEWS
Bay
HAMPT
2d
2d
GLOUCESTER
ALBEMARLE SOUND
RK RIVER BASIN
JAMES RIVER BASIN
SURRY CO.
ISLE OF WIGHT CO.

DWG 6M-A-2


Atlantic Ocean
Z
Rainey Gat
Crystal Lake
57
3c
59
3e
53
London Bridge Cr
55
62
3c
Thalia Br
3g
43
50
51
Lake Smith
Lake Wright
Lake Whitehurst
26
67
3d
NORFOLK
Eastern Br
South
Elizabeth River
10
68
41
30
35
PORTSMOUTH
CHESAPEAKE
RULING

DWG 6M-A-2-1

CHESAPEAKE BAY AND ATLANTIC OCEAN

Section	Section Description	Class	Special Standards
1	The Atlantic Ocean and its tidal tributaries from Cape Henry Light (Latitude 36° 55.6' North; Longitude 76° 00.4' West) east to the three-mile limit and south to the North Carolina state line. The Atlantic Ocean and its tidal tributaries from Cape Henry Light to Thimble Shoal Channel (Latitude 36° 57.30' North; Longitude 76° 02.30' West) from Thimble Shoal Channel to Cape Charles (Latitude 37° 07.4' North; Longitude 75° 54.4' West) east of the eastwest divide boundary on the Eastern Shore of Virginia to the three-mile limit and north to the Virginia-Maryland state line.	I B	a
1a	All free flowing portions of the stream, creeks and coves in Section 1.	III B	
2	Chesapeake Bay and its tidal tributaries from Thimble Shoal Channel (Longitude 76° 10' West to Cape Charles; Latitude 37° 07.4' North), and north to Virginia-Maryland state line west of the eastwest divide boundary on the Eastern Shore of Virginia and from Thimble Shoal Channel west to Longitude 76° 10' West and North to Virginia-Maryland state line.	II B	a
2a	Free flowing portions of streams lying on the Eastern Shore of Virginia west of the eastwest divide boundary, unless otherwise designated.	III B	
2b	Drummond's Mill Pond including Coard's Branch.	III B	b
2c	The Virginia Department of Agriculture experimental station pond and its tributaries.	III B	b
2d	The free flowing streams tributary to the western portion of Chesapeake Bay lying between the Virginia-Maryland state line and Old Point Comfort.	III B	
3	Chesapeake Bay from Old Point Comfort Tower (Latitude 37° 00' North; Longitude 76° 18.8' West) to Thimble Shoal Light (Latitude 37° 00.9' North; Longitude 76° 14.4' West). along the south side of Thimble Shoal Channel to Cape Henry Light (Latitude 36° 55.6' North; Longitude 76° 00.4' West).	II B	a

CHESAPEAKE BAY AND ATLANTIC OCEAN (cont.)

Section	Section Description	Class	Special Standards
3a	Little Creek from its confluence with Chesapeake Bay (Lynnhaven Roads) to end of navigable waters.	II B	a
3b	Tidal portions of Lynnhaven watershed from its confluence with the Chesapeake Bay (Lynnhaven Roads) to and including Lynnhaven Bay; Western Branch Lynnhaven River; Eastern Branch Lynnhaven River; Long Creek, Broad Bay and Linkhorn Bay. Thaila Creek and its tributaries to the end of tidal waters. Great Neck Creek and Little Neck Creek from their confluence with Linkhorn Bay and their tidal tributaries. Rainey Gut and Crystal Lake from their confluence with Linkhorn Bay.	II B	a, h, i
3c	Free flowing portions of streams in Section 3b, unless otherwise designated.	III B	h, i
3d	Impoundments on Little Creek watershed.	III B	b, Public Water Supply
3e	London Bridge Creek from its confluence with the Eastern Branch of Lynnhaven River to the end of tidal waters. Wolfsnare Creek from its confluence with the Eastern Branch Lynnhaven River to its headwaters.	II B	h, i
3f	Free flowing portions of London Bridge Creek.	III B	h, i
3g	Lake Joyce and Lake Bradford.	III B	b, h

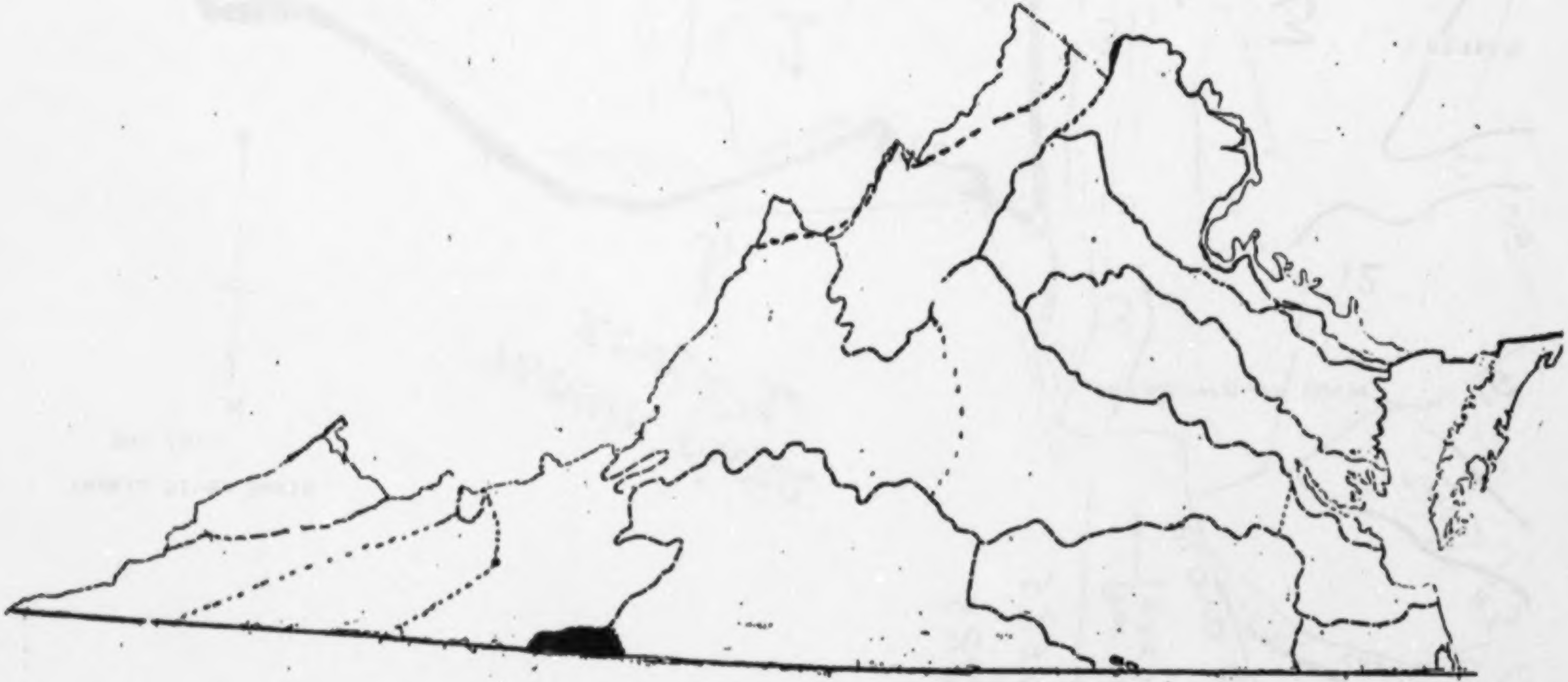
Water Quality Standards Summary

Section 6N

Yadkin River Basin

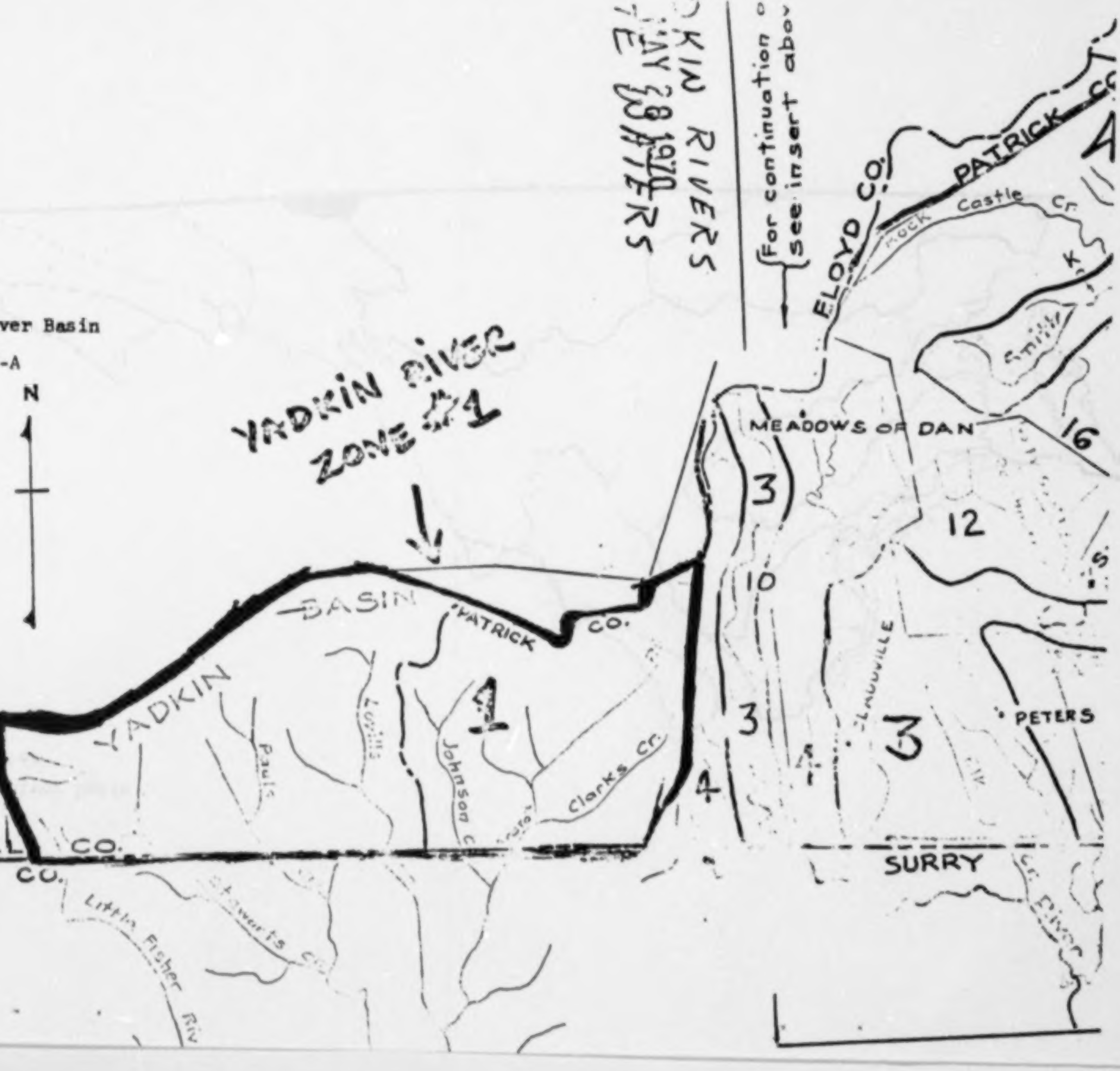
126

Yadkin River Basin
DWG 6N



Yadkin River Basin

DWG 6N-A



KIN RIVERS
MAY 28 1970
TE WATERS

YADKIN RIVER

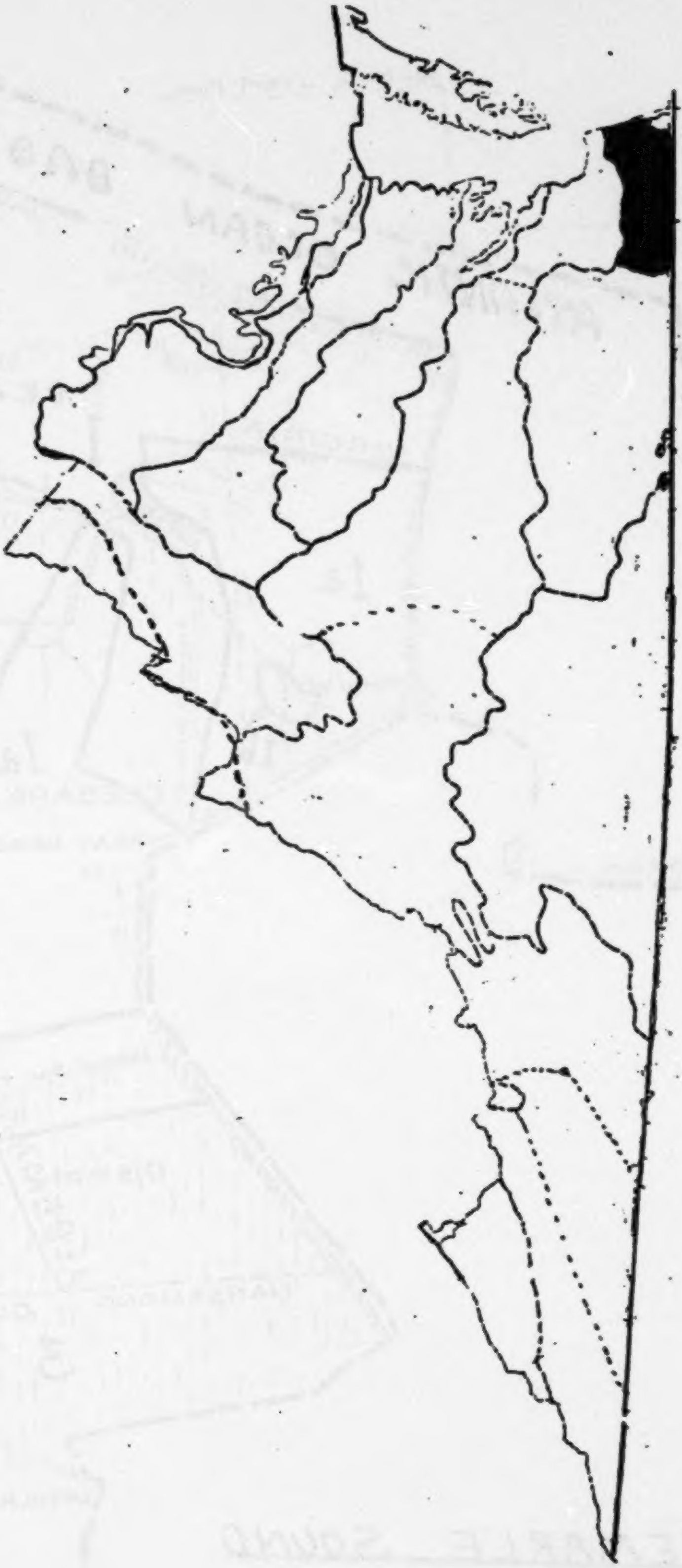
Section	Section Description	Class	Special Standards
1	Yadkin River Basin in Virginia including Ararat River, Johnson Creek, Little Fisher River, Lovills Creek, Paul's Creek and Stewarts Creek - the entire reach of these streams from the Virginia-North Carolina state line to their headwaters.	IV A	Public Water Supply
	Trout Waters in Section 1: Put and Take:		
	Ararat River from route 823 upstream to route 671.	V A	Public Water Supply
	Natural: Ararat River from route 671 upstream to its headwaters.	VI A	Public Water Supply

Water Quality Standards Summary

Section 60

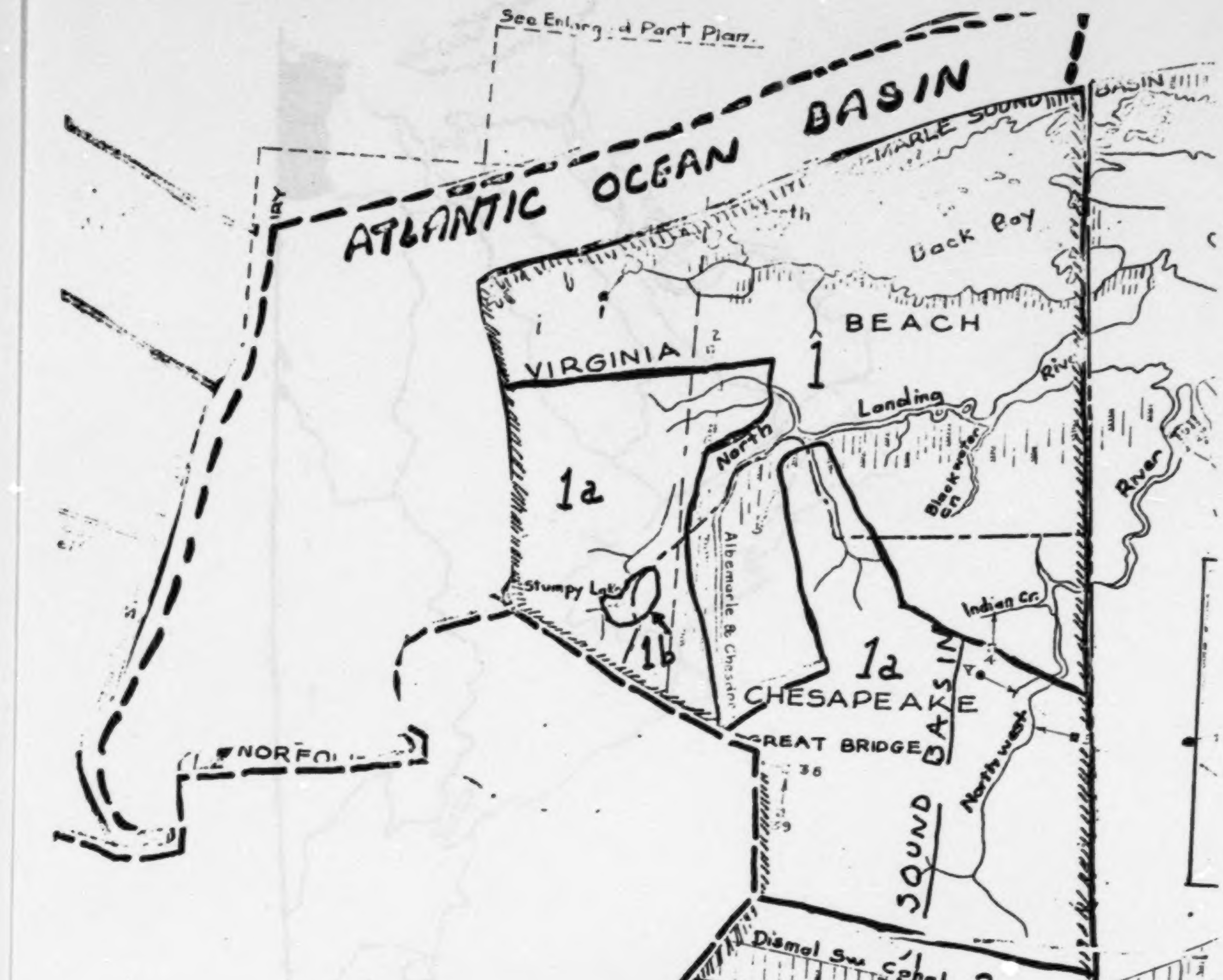
Albemarle Sound

130



Albemarle Sound

DWG 6-0



ALBEMARLE SOUND

DWG 6-0-A

ALBEMARLE SOUND

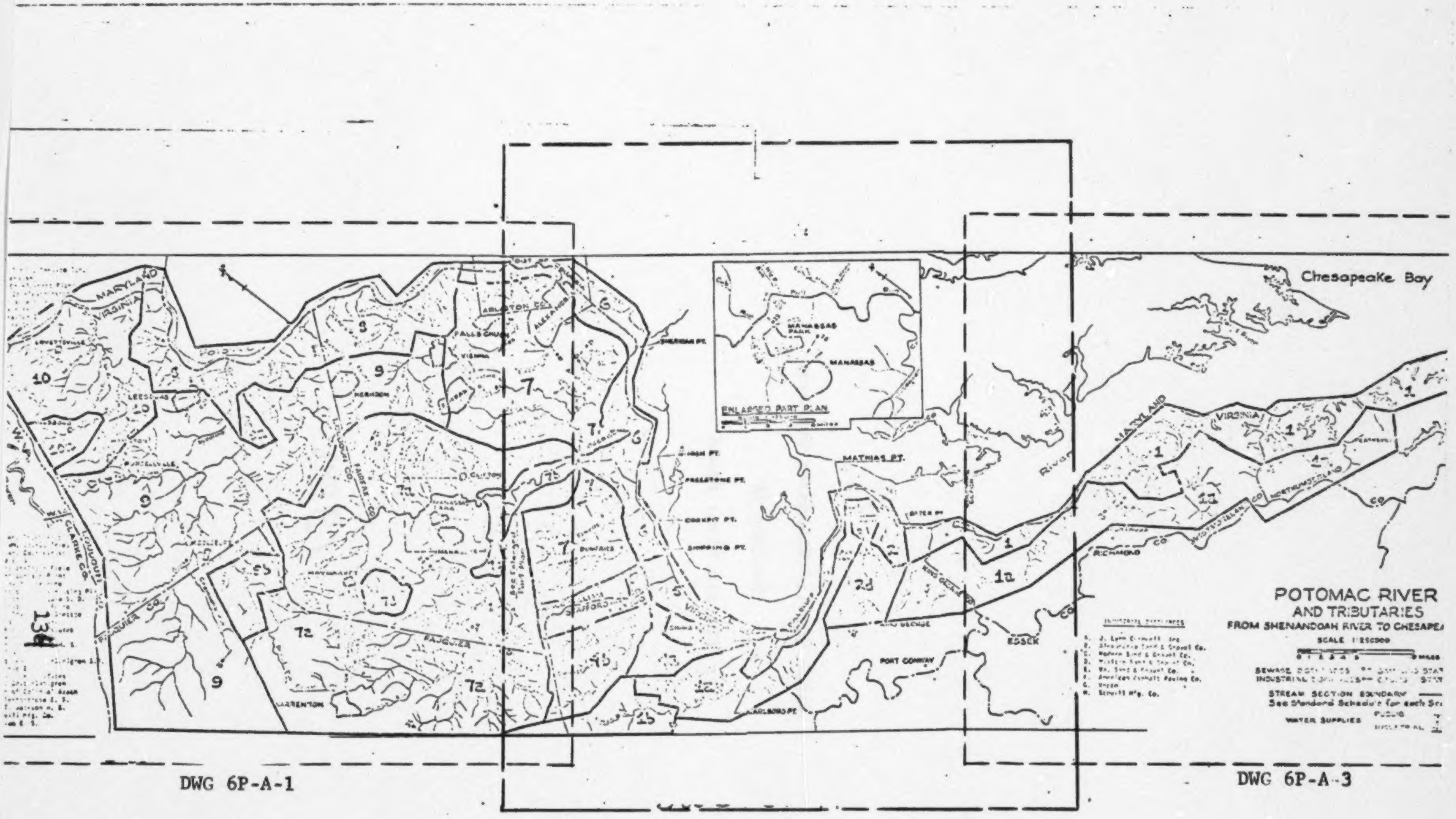
Section	Section Description	Class	Special Standards
1	Back Bay and its tributaries in the City of Virginia Beach to the Virginia-North Carolina state line and the Northwest River and its tidal tributaries from the Virginia-North Carolina state line to the free flowing portion, and North Landing River and its tidal tributaries from the Virginia-North Carolina state line to the Great Bridge Lock.	II B	
1a	The free flowing portions of streams in Section 1 and tributaries of Stumpy Lake.	III A	
1b	Stumpy Lake.	III A	b
2	Intercoastal Waterway.	III B	
3	Lake Drummond including feeder ditches and all interstate tributaries of the Dismal Swamp between Virginia and North Carolina.	III B	

Water Quality Standards Summary

Section 6P

Potomac River Basin

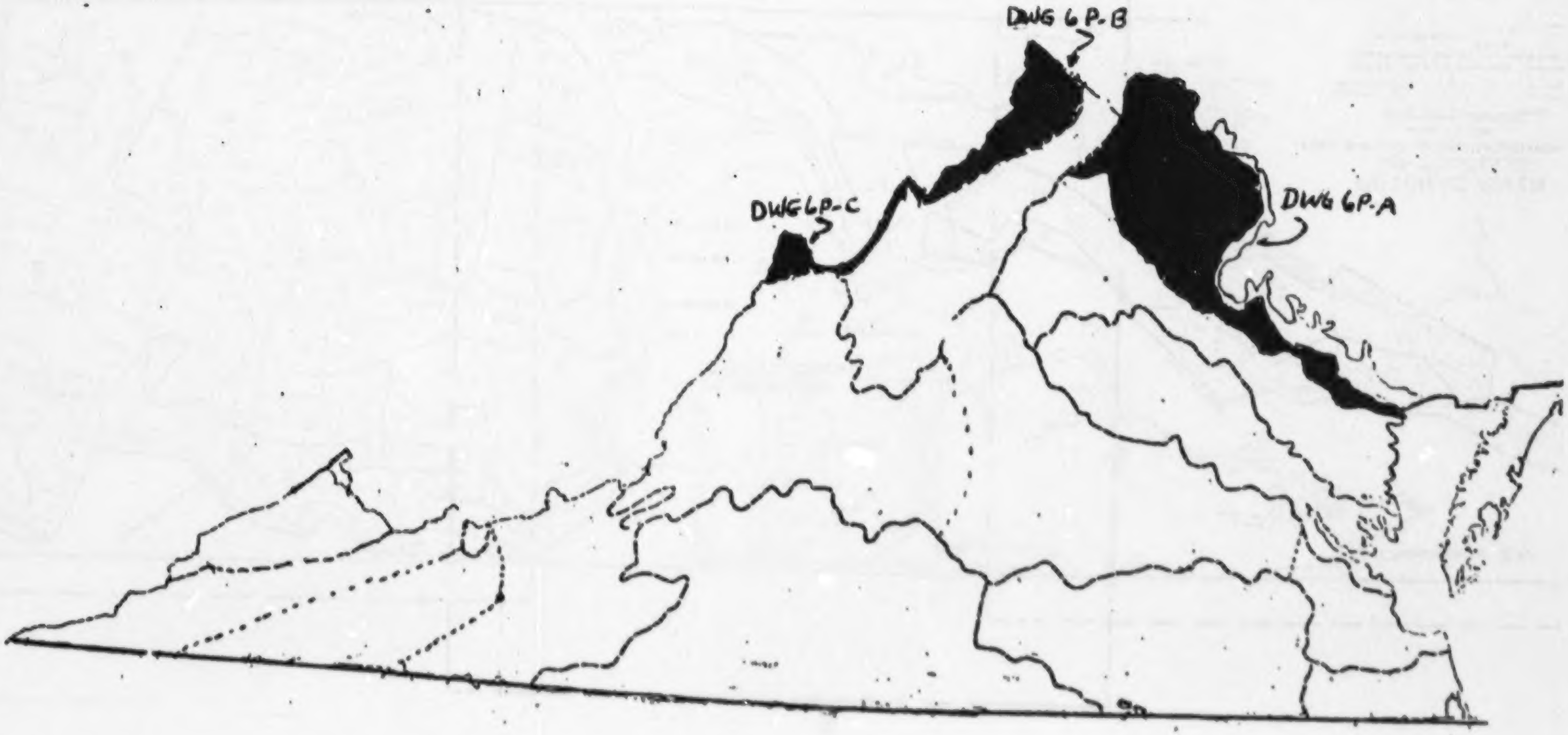
133a

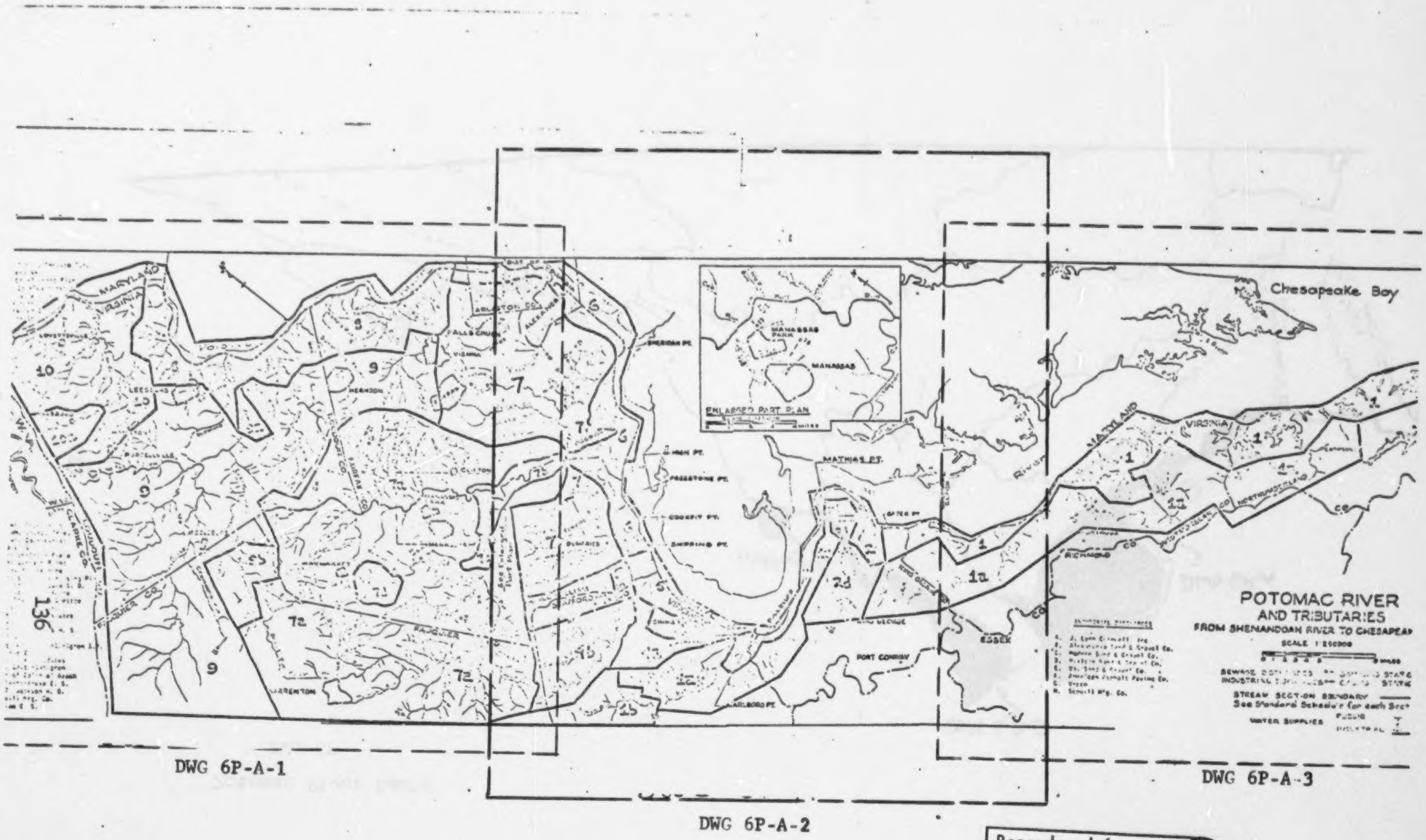
Chesapeake Bay
POTOMAC RIVER
AND TRIBUTARIES
FROM SHENANDOAH RIVER TO CHESAPE
SCALE 1:250000
STREAM SECTION BOUNDARY
See Standard Schedule for each Str
WATER SUPPLIES
PUBLIC
INDUSTRIAL
ENLARGED PART PLAN
MANASSAS PARK
MANASSAS
MARYLAND
VIRGINIA
MATHIAS PT.
FREESTONE PT.
COCKPIT PT.
SHIPPING PT.
SHERIDAN PT.
ARLINGTON CO.
ALEXANDRIA
FALLS CHURCH
VIENNA
HERNDON
LEESBURG
PURCELLVILLE
LOVETTSVILLE
CLIFTON
HAYMARKET
WARRENTON
STAFFORD
DUMFRIES
FAIRFAX CO.
LOUDOUN CO.
CLARKE CO.
FAUQUIER CO.
KING GEORGE
RICHMOND CO.
NORTHUMBERLAND CO.
ESSEX
PORT CONWAY
W. VA.
1
1a
2
2a
5
6
7
7a
8
9
10
12
13
15
72
DWG 6P-A-1
DWG 6P-A-2
DWG 6P-A-3

DWG 6P-A

Potomac River Basin

DWG 6P

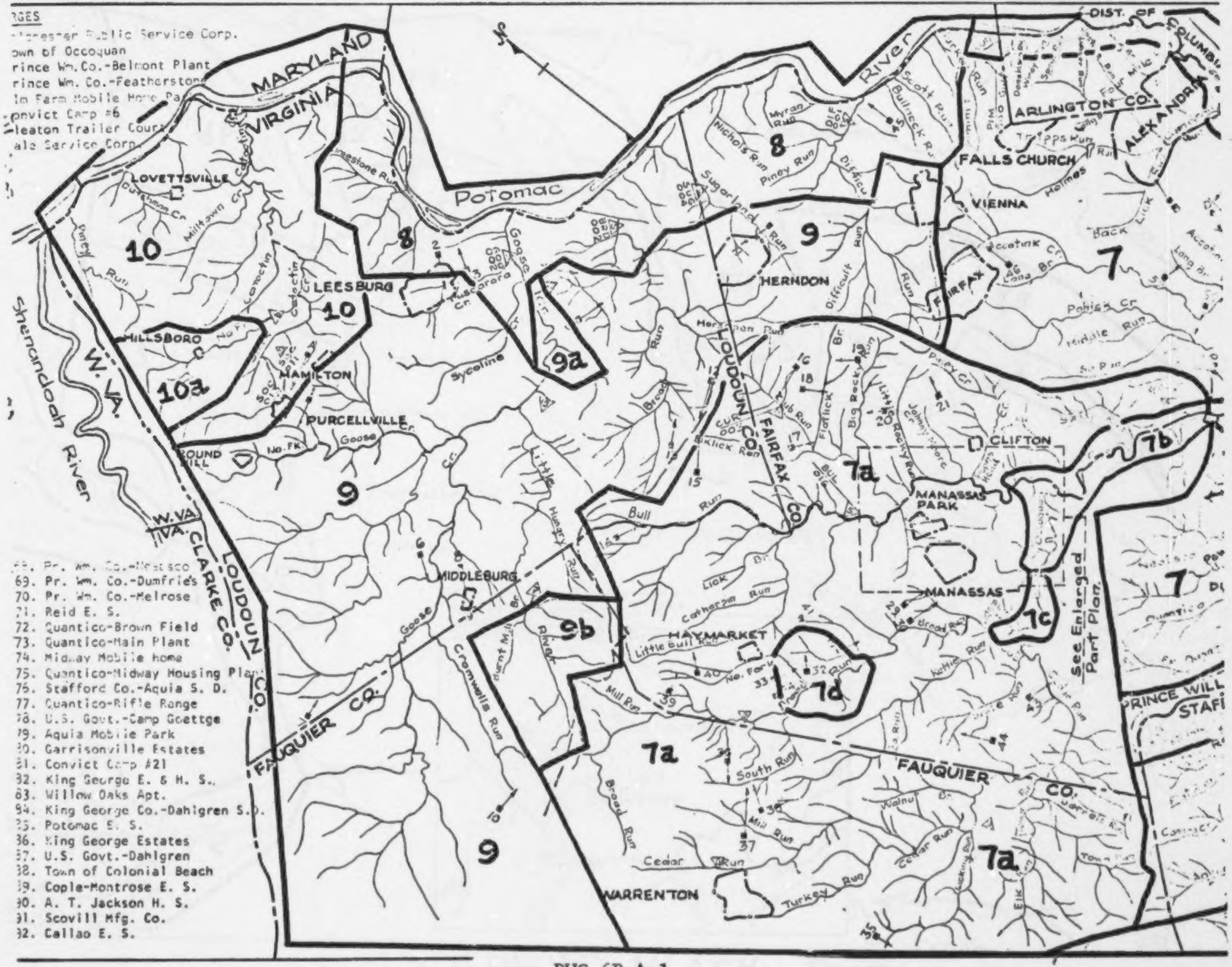




Reproduced from
best available copy.

DWG 6P-A

POTOMAC RIVER BASIN



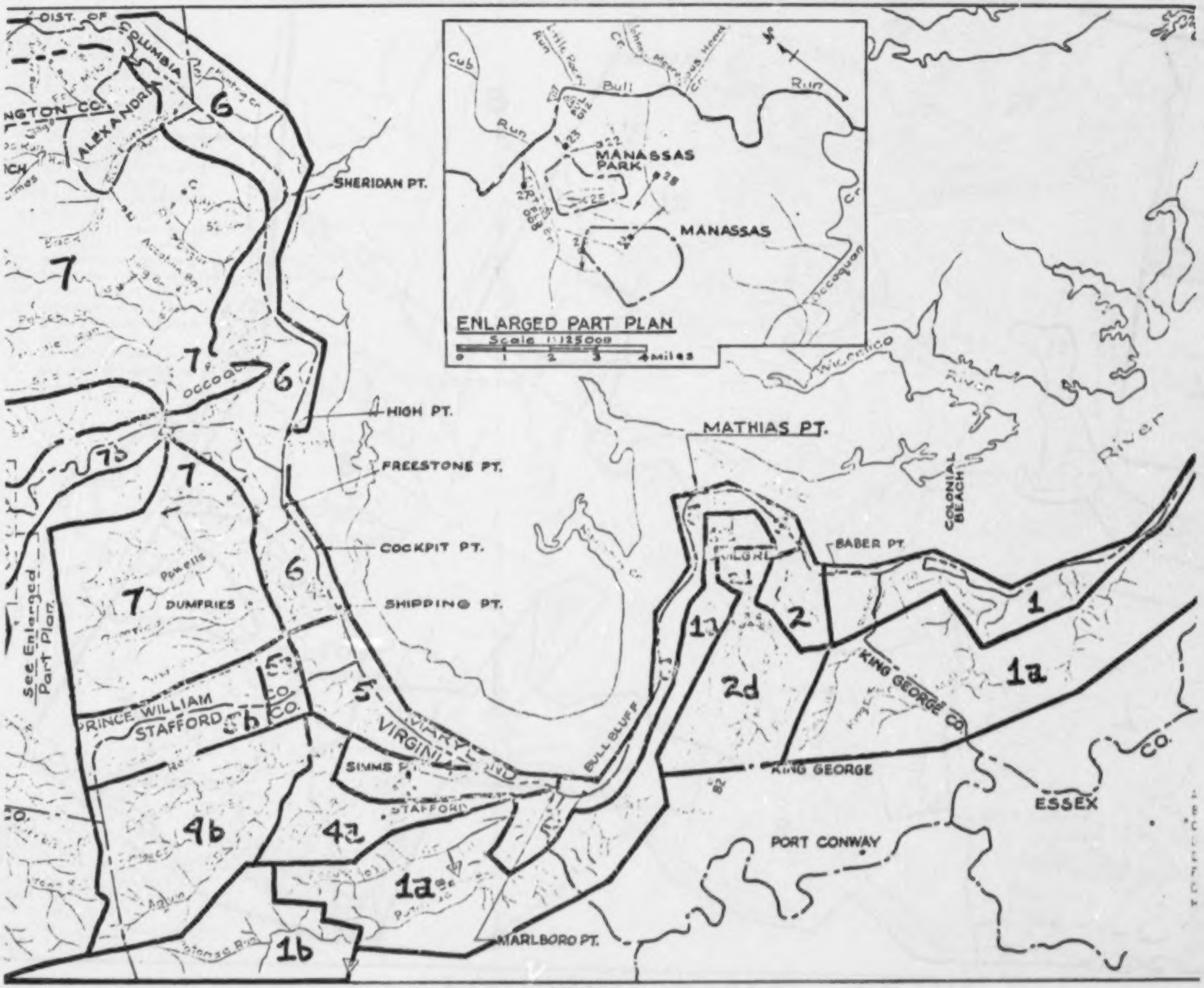
?GES
[illegible] Public Service Corp.
own of Occoquan
rince Wm. Co.-Belmont Plant
rince Wm. Co.-Featherstone
lm Farm Mobile Home Pa
onvict Camp #6
leaton Trailer Court
ale Service Corp.

68. Pr. Wm. Co.-Westsco
69. Pr. Wm. Co.-Dumfries
70. Pr. Wm. Co.-Melrose
71. Reid E. S.
72. Quantico-Brown Field
73. Quantico-Main Plant
74. Midway Mobile home
75. Quantico-Midway Housing Plan
76. Stafford Co.-Aquia S. D.
77. Quantico-Rifle Range
78. U.S. Govt.-Camp Goettge
79. Aquia Mobile Park
80. Garrisonville Estates
81. Convict Camp #21
82. King George E. & H. S.
83. Willow Oaks Apt.
84. King George Co.-Dahlgren S.D.
85. Potomac E. S.
86. King George Estates
87. U.S. Govt.-Dahlgren
88. Town of Colonial Beach
89. Cople-Montrose E. S.
90. A. T. Jackson H. S.
91. Scovill Mfg. Co.
92. Callao E. S.

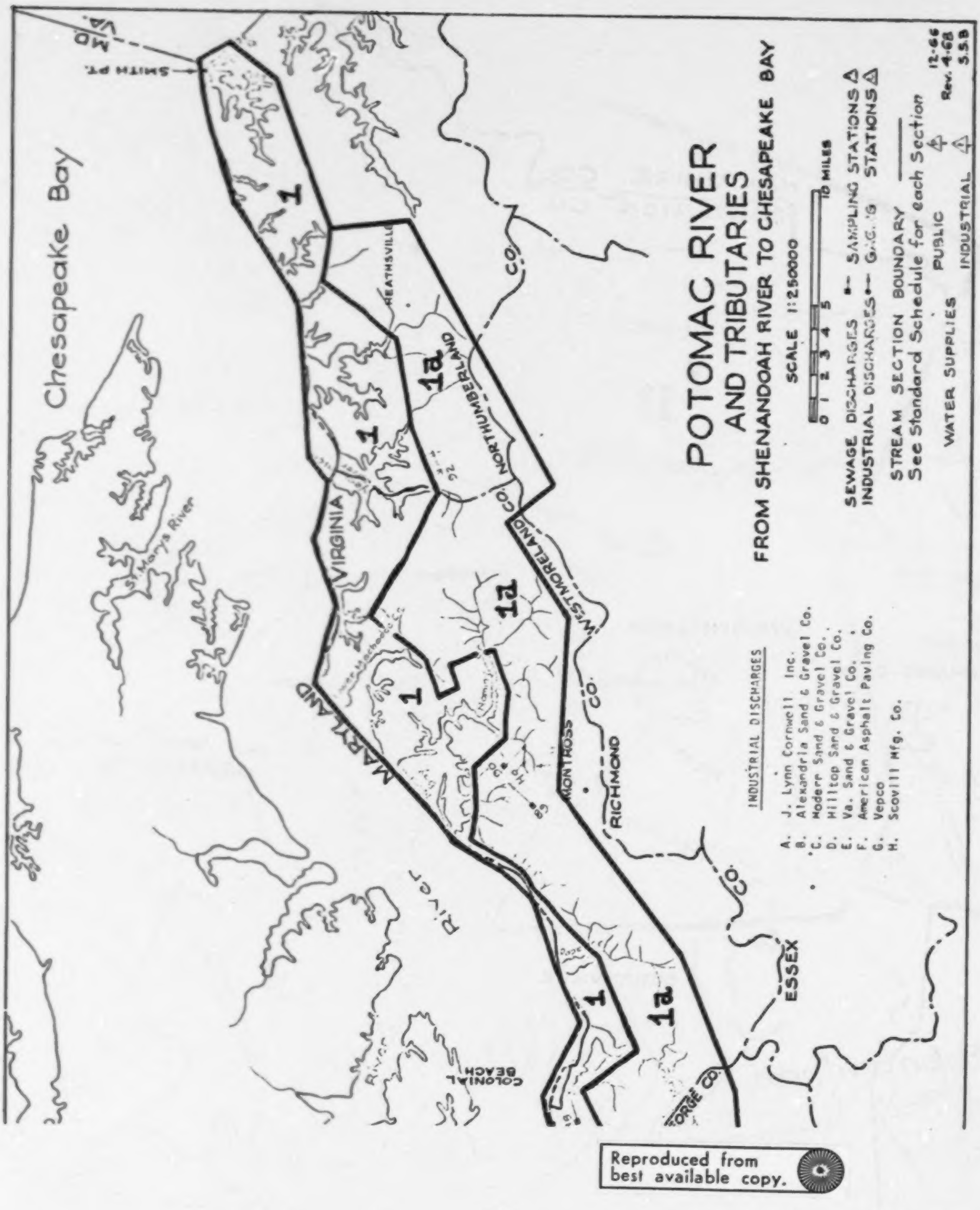
DWG 6P-A-1

Reproduced from best available copy.

POTOMAC RIVER BASIN



DWG 6P-A-2



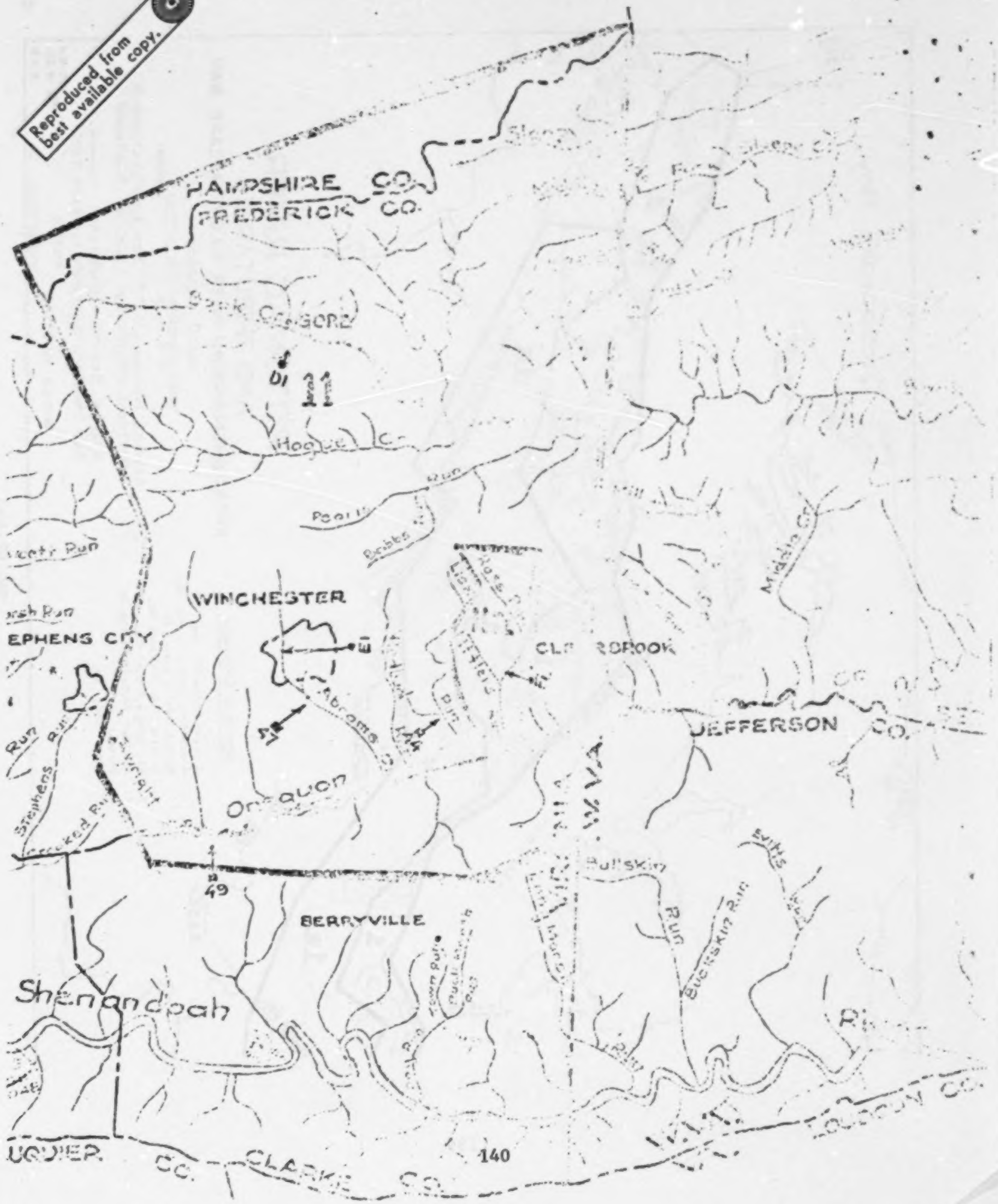
POTOMAC RIVER
AND TRIBUTARIES
FROM SHENANDOAH RIVER TO CHESAPEAKE BAY

DWG 6P-A-3

Reproduced from best available copy.

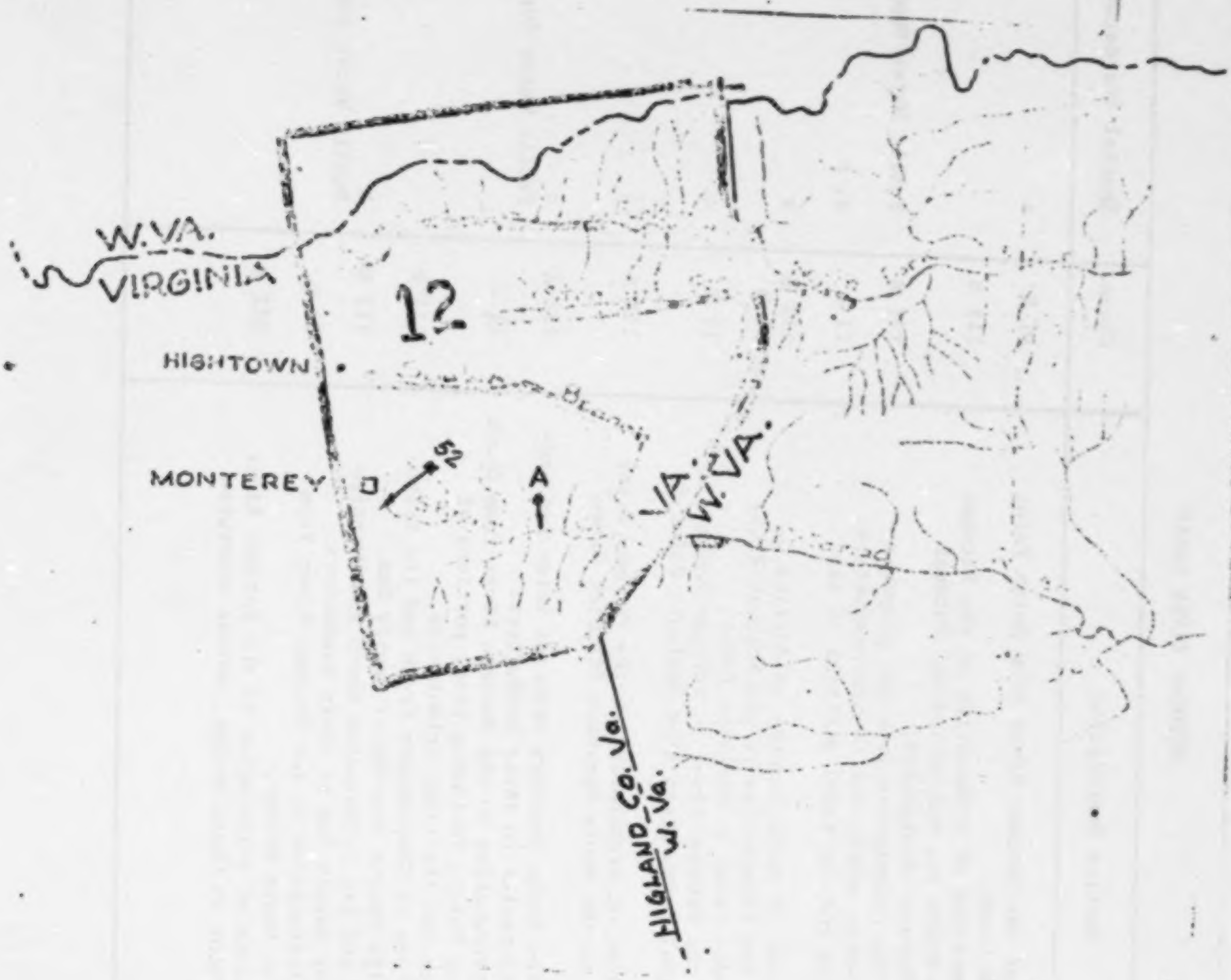
Reproduced from best available copy.

DWG 6P-B
Potomac River Tributaries



DWG 6P-C

South Branch Potomac River
and
North River



Reproduced from
best available copy.

POTOMAC RIVER BASIN

Section	Section Description	Class	Special Standards
1	Tidal tributaries of the Potomac River from Smith Point to Upper Machodoc Creek.	II B	a
1a	All free flowing portions of tributaries to the Potomac River from Smith Point to, and including, Potomac Creek, unless otherwise designated.	III B	
1b	Potomac Creek and its tributaries from the proposed Stafford County water supply dam to its headwaters.	III B	Public Water Supply
2	Upper Machodoc Creek and the tidal portions of its tributaries.	II B	a, p
2a	Free flowing portions of those streams in Section 2.	III B	p
3	Tidal portions of the tributaries to the Potomac River from Upper Machodoc Creek to Marlboro Point.	II B	
4	Tidal portions of the Potomac River to include Aquia Creek and its tidal tributaries from Marlboro Point to Brent Point.	II B	q
4a	Free flowing portions of tributaries to the Potomac River in Section 4 up to the Aquia Sanitary District Water Impoundment.	III A	q
4b	Aquia Creek from the Aquia Sanitary District Water Impoundment and its tributaries to their headwaters.	III A	q Public Water Supply
5	Tidal portion of tributaries to the Potomac River from Brent Point to Shipping Point, including tidal portions of Chopawamsic Creek and its tidal tributaries.	II A	
5a	Free flowing portions of Chopawamsic Creek and its tributaries to Quantico Marine Base Water Supply Dam.	III B	
5b	Chopawamsic Creek and its tributaries above the Quantico Marine Base Water Supply Dam to their headwaters.	III B	b Public Water Supply
6	Tidal portion of tributaries to the Potomac River from Shipping Point to Chain Bridge.	II B	
7	Free flowing portions of tributaries to the Potomac River from Shipping Point to Chain Bridge, unless otherwise designated.	III B	

POTOMAC RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
7a	Occoquan Creek and its tributaries above Alexandria Water Company's water supply impoundment, unless otherwise designated.	III B	r
7b	The impounded waters of Occoquan Creek above the water supply dam of the Fairfax County Water Authority to backwater of the impoundment on Bull Run and Occoquan Creek (Lake Jackson).	III B	b, r Public Water Supply
7c	Broad Run above the proposed impoundment for the Town of Manassas upstream to a point five miles above the dam.	III B	b, r Public Water Supply
7d	The impounded waters of Lake Jackson in Broad Run and Cedar Run.	III B	b, r
8	Tributaries to the Potomac River in Virginia between Chain Bridge and the Monacacy River from their confluence with the Potomac upstream 5 miles, to include Goose Creek to the City of Fairfax's raw water intake, unless otherwise designated.	III B	Public Water Supply
9	Broad Run, Sugarland Run, Difficult Run, Tuscarora Creek, Sycoline Creek and other streams in Section 8 from a point 5 miles above their confluence with the Potomac River to their headwaters, unless otherwise designated.	III B	
9a	Little River from Middleburg's raw water intake to its headwaters.	III B	Public Water Supply
9b	All the impounded water of Goose Creek and its tributaries from the City of Fairfax's raw water intake upstream to backwater.	III B	b Public Water Supply
10	Tributaries of the Potomac River from the Monacacy River to the West Virginia-Virginia state line in Loudoun County, from their confluence with the Potomac River upstream 5 miles, except that on the North Fork of Catoctin Creek the section will extend to the Town of Purcellville's raw water intake.	III B	
10a	North Fork Catoctin Creek from Purcellville's raw water intake to its headwaters.	III A	Public Water Supply
10b	South Fork Catoctin Creek from its confluence with the North Fork Catoctin Creek to its headwaters.	III A	

POTOMAC RIVER BASIN (cont.)

Section	Section Description	Class	Special Standards
11	Tributaries of the Potomac River in Frederick and Clarke Counties, Virginia, unless otherwise designated.	IV A	pH shall be 6.5-9.5
	Trout Waters in Section 11: Put and Take: Back Creek (upper) from Rock Enon 4 miles upstream. Back Creek (lower) from route 600 to mouth of Hogue Creek - 2.0 miles. Hogue Creek from route 679 upstream 6.0 miles to the Forks below route 612.	V A	pH shall be 6.5-9.5
11a	Hot Run and its tributaries from its confluence with Opequon Creek to its headwaters.	IV A	d pH shall be 6.5-9.5
12	South Branch of the Potomac River and its tributaries, such as Strait Creek, and the North Fork River and its tributaries from the Virginia-West Virginia state line to their headwaters.	IV A	pH shall be 6.5-9.5

IMPLEMENTATION PLAN
FOR
INTERSTATE WATERS
OF THE
COMMONWEALTH OF VIRGINIA

IMPLEMENTATION PLAN

The "action" plan of the standards is the plan of implementation and enforcement. This plan sets forth requirements for treatment and/or control of all conventional municipal and industrial waste discharges in the Commwealth which affect interstate waters, specifies the time within which this is to be accomplished, and contains programs for dealing with other water pollution control programs. Section 62.1-44.15(14) of the State Water Control Law is "To establish requirements for the treatment of sewage, industrial wastes and other wastes that are consistent with the purposes of this chapter; provided, however, that no treatment will be less than secondary or its equivalent, unless the owners can demonstrate that a lesser degree of treatment is consistent with the purposes of this chapter." With the exception of those owners granted variance in their time schedules because of unusual technical or economical problems, it is the intention of the Commonwealth of Virginia State Water Control Board to take such action as will result in compliance with standards by July 1, 1972. Information on the requirements for any particular discharger may be obtained from the Commonwealth of Virginia State Water Control Board, P. O. Box 1143, Richmond, Virginia, 23230.

Agricultural Waste Waters and Land Erosion

There is no known significant problem with agricultural waste waters throughout the State of Virginia. Land erosion is generally insignificant except in localized areas such as in Northern Virginia where large subdivision developments are in progress. These problems are generally controlled by local government.

There are high MPN counts in the Shenandoah River believed to result from surface runoff of animal waste products.

Waste From Marinas and Vessels

Waste discharges from marinas and vessels are considered to be minimal in the State except in the Lower James River and Hampton Roads area. Localized problems exist from activity generated at some large marinas, but not as a result of direct discharges from the marinas. The main boat pollution problem is associated with the waste discharges from large commercial and governmental vessels in the Hampton Roads area.

The Water Control Board has authority from the General Assembly to adopt and promulgate regulations for the purpose of controlling the discharge of sewage and other wastes from boats and vessels operation upon the waters of this State. The problem is under study and conferences have been held with other agencies of the State in regard to developing appropriate boat pollution regulations in the near future.

Combined Sewer Overflows

There are several cities in Virginia with combined sewer overflows, the more important ones being: Richmond, Hopewell, Roanoke, Alexandria, and cities in the Hampton Roads area. Studies to determine the extent of and solution to these problems in the Richmond, Roanoke, and Alexandria areas are underway.

Nutrient Problem Areas

For some time the Board has been aware that nutrient enrichment is a problem in the Occoquan Creek Watershed; and in order to protect the public water supply located on the Creek, the Board has ruled that any proposals received after September 1, 1963, will be considered only after the Board is satisfied that the water quality in the watershed will not be rendered unsatisfactory for present or future uses. As a result of this ruling, the Board granted the Prince William County, Greater Manassas Sanitary District Authority to construct sewage treatment facilities which incorporated phosphate removal facilities. This facility has operated with varying degrees of success but in general has not achieved the desired results. In addition, the Department of the Interior made a direct grant to the District and supplied staff members to conduct nutrient removal pilot plant studies. While the conclusions of these studies have not yet been made available, it appears that the pilot plant studies have achieved a high degree of success.

In addition to the above actions on the Occoquan Watershed, in 1968 a $300,000 study funded equally by the Virginia General Assembly and four political subdivisions in the watershed was begun, under the guidance of Dr. Clair N. Sawyer. The study has now been completed and a report detailing water quality problems and their cause and solution to the problems in the watershed expected from the State Water Control Board by September of 1970.

Mine Drainage

There are no significant mine drainage problems in the State.

Water Quality Standards Summary

Appendix

146a

GLOSSARY OF TERMS

Advanced Waste Treatment - Refers to methods and processes that will remove more contaminants from wastewater than are usually removed in present day conventional treatment plants. The processes may be physical, chemical, or biological. Examples of advanced waste treatment are carbon columns, electrolytic coagulation, reverse osmosis, electrodialysis, and ion exchange.

Bacteria - A group of test organisms which are used as indicators of the sanitary quality of the water. The Commonwealth of Virginia uses total coliform bacteria as their specific test organism. Bacterial concentrations originate primarily from municipal waste treatment plants, sanitary and combined sewers, storm drains, vessels and agricultural wastes.

Biochemical Oxygen Demand (BOD) - The quantity of oxygen utilized in the biochemical oxidation of organic matter in a specified time and at a specified temperature. Waste discharges containing high levels of BOD will deplete oxygen supplies in receiving waters.

Disinfection - The killing of the larger portion (but not necessarily all) of the harmful and objectionable micro-organisms in, or on, a medium by means of chemicals, heat, ultraviolet light, etc. Chlorination is the method commonly employed in sewage treatment processes.

Dissolved Oxygen (DO) - The oxygen dissolved as a gas in sewage, water, or other liquid usually expressed in milligrams per liter (mg/l), parts per million (ppm), or percent saturation. Adequate dissolved oxygen levels are necessary in waters to protect fish and other aquatic life and to prevent offensive odors. Low dissolved oxygen concentrations are generally due to excessive organic solids discharged as a result of inadequately treated waste (having high BOD); excessive algal growths may cause vastly fluctuating dissolved oxygen levels, and other factors such as temperature and water movement have an impact on dissolved oxygen levels.

Interstate Waters - Under the Federal Water Pollution Control Act, interstate waters are defined as:

1. rivers, lakes, and other waters which flow across or form part of State or international boundaries;

2. waters of the Great Lakes;

3. coastal waters - whose scope has been defined to include ocean waters seaward to the territorial limits and waters along the coastline (including inland streams) that are influenced by the rise and fall of the tide.

pH - The index of hydrogen ion activity, used as an indication of acidity or alkalinity in waters. The pH of most waters ranges from 6.5 to 8.5, and most uses of water, such as aquatic life propagation, prosper at these levels. In most cases, a pH outside this range is due to discharge of industrial wastes or decaying organic vegetation.

Pollution - The addition of sewage, industrial wastes or other harmful or objectionable material to water at a concentration or in sufficient quantity to result in measurable degradation of water quality.

Primary and Secondary Contact Recreation - Also called whole-body contact recreation. Primary contact recreation includes uses of water such as swimming, water skiing and skin diving. Secondary contact recreation includes such recreational uses as boating and fishing.

Primary Treatment - May be defined as that process capable of removing a high percentage of floating and settleable solids. This is the first major treatment in a sewage treatment works and generally removes from 30 to 65 percent of the suspended solids and 30 to 40 percent of the 5-day biochemical oxygen demand.

Secondary Treatment - May be defined as that process or group of processes capable of removing virtually all floating and settleable solids, generally from 85 to 95 percent of the 5-day biochemical oxygen demand, and a similar level of removal of suspended solids in untreated waste. The equivalent treatment may generally be defined as that process or group of processes achieving maximum practicable removal of solids, oils, grease, acids, alkalis, toxic materials, bacteria, taste and odor causing materials, color and any other objectionable constituents contained in untreated waste to produce an effluent equivalent to that obtained from secondary treatment facilities in current use for any specific category of industrial waste.

Sewage - (1) The water supply of a community after it has been used and discharged into a sewer, (2) wastewater from the sanitary conveniences of dwelling, business buildings, factories and other institutions.

Sewage, Combined - A sewage containing both sanitary sewage and surface or storm water with or without industrial wastes.

Sewer, Combined - A sewer which carries both sanitary sewage and storm drainage. Where combined sewers are used, the capacity is usually exceeded at times of heavy rainfall and the sewers overflow, discharging combined sewage directly into streams without treatment of any kind.

Warm-and-Cold-Water-Fish - Warm-water fish include black bass, sunfish, catfish, gar and others; cold-water fish include salmon and trout, whitefish, Miller's thumb and blackfish. The temperature factor determining distribution is set by adaptation of the eggs to warm or cold water.

Temperature - A measure of the heat content of water. While stream temperature is affected naturally, man significantly affects it through the construction and operation of dams and the discharge of cooling waters from industrial processes, particularly power generation.

Toxic Materials - Materials which are harmful to human, plant, animal, and aquatic life. These may include hundreds of compounds present in various waters such as industrial waste discharges or run-off from where pesticides have been applied.

Solids, Settleable - Suspended solids which will subside in quiescent water, sewage or other liquid in a reasonable period.

Solids, Suspended - Solids that either float on the surface of, or are in suspension in, water sewage or other liquids and which are largely removable by laboratory filtering.

Water Quality Standards Summary

Stream Index

150

INDEX OF STREAMS IN VIRGINIA

	Stream	Page
*	Aarons River	56
T	Appomattax River	105
T	Aquia Creek	142
*	Ararat River	129
T*	Atlantic Ocean	124
T*	Back Bay	133
*	Back Creek	142
	Bannister River	56
	Barbaurs Creek	117
T	Barrett Point	99
	Battery Creek	114
	Bear Creek	38
*	Beaver Creek	38
	Beaverdam Creek	39
	Benges Branch	30
	Bens Branch	30
*	Big Bluewing Creek	56
	Big Cedar Creek	31
	Big Laurel Creek	39
	Big Laurel Run	77
	Big Mary's Creek	117
	Big Moccassin Creek	37
	Big Otto Creek	59
	Big Reed Island Creek	48
	Big Run	74
	Big Sandy	23
	Big Stone Gap	30
	Big Stony Creek	78
	Big Tumbling Creek	37
	Big Wilson Creek	47
	Black Run	76
*	Blackwater Creek	30
T*	Blackwater River	67
	Blue Springs Run	116
*	Bluestone River	46
	Boozy Creek	37
	Bottom Creek	61
	Brokenback Run	86
	Brandon Creek	56
	Brandy Branch	105
	Brantley Stream	59
	Brattons Run	117
	Briery Branch	76

	Stream	Page
	Broad Bay	125
	Broad Run	117
	Brown Run	74
	Browns Mill Creek	114
	Brumley Creek	37
	Brush Creek	47
	Buffalo Creek	106
	Buffalo River	113
	Bull Run	143
	Bullpasture River	115
	Burks Fork	48
	Cabin Creek	47
	Cahoon Pond	99
	Calfpasture River	115
*	Cane Creek	56
	Caney Creek	23
	Carters Run	87
*	Cascade Creek	57
*	Cedar Creek	78
	Cedar Run	143
	Cherry Creek	59
	Cherrystone Creek	56
	Chestnut Creek	49
T	Chickahominy River	105
	Chisel Run	99
T	Chopawamsic Creek	142
	Clayton Mill Creek	116
	Clear Fork Creek	45
*	Clinch River	30
	Coal Creek	40
	Coleman Mill Pond	56
	Coles Run	75
	Comers Creek	39
	Conway River	86
	Corder Branch	30
	Cornelius Creek	116
	Couches Creek	68
	County Line Creek	56
	Courthouse Creeks	107
	Cove Creek	30
	Cowpasture River	115
	Coy Creek	57
*	Crab Run	117

Stream	Page
Craig Creek	117
Cressy Creek	39
Cripple Creek	48
* Crooked Creek	47
Crutchfield Branch	56
Crystal Lake	125
Cub Run	74
* Dan River	56
Davis Run	117
Deep Creek	107
Deep Hollow Run	78
Deep Run	87
Devils Ditch	86
Diascund Creek	105
Dickey Creek	39
Difficult Run	143
Dismal Creek	45
Dismal Swamp	133
Dockery Creek	56
Dodd Creek	49
Dry Creek	30
Dry Fork	23
Dry River	76
Dry Run	48
* Dunlap Creek	115
Eagle Bottom Creek	50
East Branch Naked Creek	74
East Fork Clear Fork Creek	45
East Fork Crooked Creek	47
East Fork Little Reed Island Creek	49
East Dry Branch	115
East Hawkskill Creek	75
Eastern Branch Elizabeth River	99
Eastern Branch Lynnhaven River	125
T Elizabeth River	99
* Elk Creek	47
Enchanted Creek	113
Fall Creek	59
Falling Creek	59
Falling River	59
Fifteen Mile Creek	38
Flat Rock Creek	68
Fox Creek	47

Stream	Page
Francis Mill Creek	48
Fridleys Branch	116
Fryingpan Creek	23
Fultz Run	75
Gardner Spring	76
Garth River	87
Georges Creek	56
German River	77
Glade Creek	47
Goat Creek	57
Gooney Run	74
Goose Creek	143
Graham Creek	114
Greasy Creek	48
Great Creek	68
Great Neck Creek	125
Green Cove Creek	39
Green Creek	60
Guys Run	117
Hanzlins Swamp Branch	67
Happy Creek	75
Hardy Creek	30
Harris Branch	48
Harris Creek	48
Hatcher Run	67
Hawksbill Creek	74
* Hawtree Creek	56
Hays Creek	117
* Helton Creek	47
Hogan Branch	49
Hogcamp Branch	87
Hogue Creek	144
* Holston River	37
Hookers Creek	57
Horsepen Run	87
T Hoskins Creek	86
Hot Run	144
Howells Creek	49
Hughes River	86
Hungry Mother Creek	38
Hunting Creek	114
Hunting Run	87
Huntingcamp Creek	45
Hurricane Creek	39
* Hyco River	56
Hypes Creek	116

Stream	Page
* Indian Creek	30
* Intercoastal Waterway	133
Irish Creek	113
Ivy Branch	106
Ivy Creek	58
Jackson River	115
Jacob Fork	
T James River	23
Jennings Creek	115
Jeremiah's Run	74
Jerkentight	116
Jerrys Run	115
John Keer Reservoir	59
Johns Creek	115
Johns Run	75
* Johnson Creek	107
Jones Creek	48
Kennedy Run	75
Killinger Creek	48
Kimberling Creek	45
Knob Fork Creek	47
* Knox Creek	23
Lake Bradford	125
Lake Burnt Mill	99
* Lake Drummong	133
Lake Gaston	56
Lake Jackson	143
Lake Jordan	67
Lake Joyce	125
Lake Kilby	99
Lake Meade	99
Lake Prince	99
Laurel Creek	37
* Laurel Fork	46
Laurel Run	77
Lovills Creek	129
Lazaretto Creek	67
* Levisa Fork	23
Lick Branch	117
Lick Creek	37
Lickinghole Creek	105
Linkhorn Bay	125
Little Back Creek	116
Little Calfpasture River	117
Little Cedar Creek	31
Little Creek	30
* Little Dan River	56
Little Fisher River	129
Little Hawksbill Creek	74
Little Mill Creek	116
Little Neck Creek	125
Little Passage Creek	77
Little Reed Island Creek	49
* Little River	48
T Little Salem Creek	93
Little Stony Creek	30
Little Tumbling Creek	37
Little Walker Creek	45
London Bridge Creek	23
Long Branch Creek	23
Long Creek	125
Long Run	77
* Lovills Creek	129
Lynnhaven Bay	125
T Lynnhaven River	125
Madison Creek	117
Maggodee Creek	60
Main Fork Helton Creek	47
Maple Swamp Branch	58
Mares Run	116
T Marlboro Point	142
* Martin Creek	30
Massaponax Creek	87
* Matrimony Creek	56
T Mattaponi River	93
Motts Run	87
Maury River	115
Mayberry Creek	58
* Mayo Creek	56
Meadow Creek	48
Mechum River	107
* Meherrin River	67
Middle Creek	116
Middle Fork Holston River	38
Middle Fox Creek	47
Middle River	75
Mill Branch	118
* Mill Creek	46
Mills Creek	75
Mira Fork Creek	48

Stream	Page
Modest Creek	67
Monacacy River	143
Moores Creek	118
Moormans River	107
Mountain Run	77
Muddy Creek	76
Muddy Run	116
T Nansemond River	99
* New River	45
Ni River	93
Nicely Branch	37
Nicks Creek	38
No Business Creek	45
North Creek	116
North Fork Buffalo River	113
North Fork Catoctin Creek	143
North Fork Clinch River	30
North Fork Holston River	37
North Fork Moormans River	107
North Fork Pound River	23
North Fork Powell River	30
North Fork River	144
North Fork Roanoke	61
North Fork Shenandoah	74
North Fork South Mayo	56
North Fork Stony Creek	46
North Fork Thornton River	87
North Fork Tye River	113
North River	75
* North Landing River	133
* North Mayo River	54
Northeast Creek	93
T* Nottoway River	67
Occoquan Creek	143
Old Town Creek	106
* Opequon Creek	144
Pads Creek	116
Pagan River	99
T Pamunkey River	93
Pass Run	75
Passage Creek	77
Paul's Creek	129
Peach Bottom Creek	47
Peak Creek	49
Pedlar River	113
* Peters Creek	57

Stream	Page
Peters Mill Run	77
Phelps Creek	59
Pigg River	60
Piney River	87
Pitt Spring	74
Pitt Spring Run	74
Pocosin Creek	86
Poorhouse Creek	58
Potomac Creek	142
T Potomac River	142
* Potts Creek	115
Pound River	23
Pounding Mill Creek	115
Powell Creek	107
Poverty Creek	47
* Powell River	30
* Pumpkin Creek	57
Queen Creek	93
Rainey Gut	125
Ramsey's Draft	116
Rapidan River	86
T Rappahannock River	86
Rawley Springs	76
Reed Creek	48
Rivanna River	107
* Roanoke River	59
Roaring Fork Creek	37
Roaring Run	118
Robinson River	86
Rock Castle Creek	58
Rockfish Creek	107
Rockfish River	106
Rocky Row Run	114
Rocky Run	76
Rose River	87
Round Meadow Creek	58
Rowland Creek	39
Runnet Bag Creek	58
Rush River	87
* Russell Fork	23
Rutledge Creek	113
Salem Creek	93
Shenandoah River	74
Shingle Creek	99
Shoemaker River	77
Silver Lake	76

Stream	Page
Simpson Creek	115
Sinking Creek	37
Skidmore Fork	76
Slate Creek	23
Slate Lick Run	77
Slate River	108
* Smith Creek	56
Smith Mountain Lake	56
T Smith Point	142
* Smith River	56
South Anna River	93
* South Branch Potomac River	144
South Fork Catoctin Creek	143
South Fork Holston River	39
South Fork Moormans River	106
South Fork Powell River	30
South Fork Roanoke River	61
South Fork Rivanna River	107
South Fork Rockfish River	107
South Fork Shenandoah	74
* South Holston Lake	37
* South Mayo River	59
South River	75
Southern Branch Elizabeth River	99
Spring Creek	38
Spur Branch	45
St. Marys River	116
Stacy Branch	23
Staley Creek	38
Staton Creek	113
Staunton River	86
Steel Creek	38
* Stewarts Creek	129
Stock Creek	31
Stony Creek	31
Straight Branch	39
* Straight Fork	30
Straight Gap	30
Strait Creek	144
Stumpy Lake	133
Sugarland Run	143

Stream	Page
Swift Creek	105
Swift Run	106
Sycoline Creek	143
Thaila Creek	125
Thornton River	87
T Thorofare Creek	93
Timbertree Branch	37
Tinker Creek	60
Tom's Creek	47
Totier Creek	107
Tract Fork	47
Tuckahoe Creek	106
* Tug Fork	23
Tuggle Creek	59
Tuscarora Creek	143
Tye River	113
T Upper Machodoc Creek	142
Valley Creek	39
Walker Creek	45
Wallers Mill Pond	93
Watkins Branch	23
West Fork Little River	48
West Fork Peak Creek	47
Western Branch Elizabeth River	99
Western Branch Lynnhaven River	125
White Oak Canyon Run	87
White Oak Run	87
White Rock Creek	48
Whitetap Creek	39
Wilderness Creek	45
Wilderness Run	87
Willis River	107
Wilson Creek	116
Wilson Run	86
* Winns Creek	56
Wolf Creek	38
Wolfpit Run	56
T Wolfsnare Creek	125
Yadkin River	129
T York River	93

* Significant Interstate Streams
T Tidal or streams influenced (wholly or in part) by tide.